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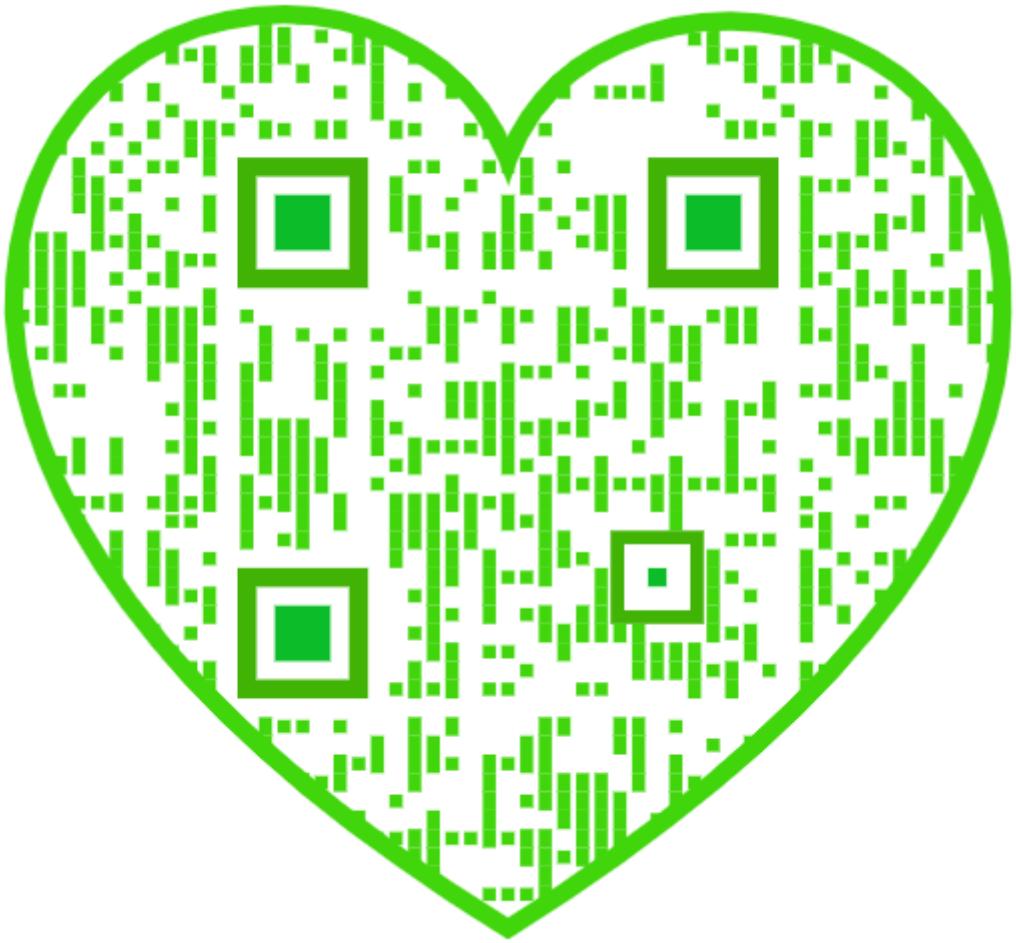

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DEATH OF THE BARONESS BURDETT-COUTTS.

It is with deepest sorrow that we have to record the death of the Baroness Burdett-Coutts, President of the British Bee-keepers' Association, who passed peacefully away at her London residence, 1, Stratton Street, Piccadilly, on the morning of Sunday, December 30.

Among the many public bodies with which the Baroness associated herself, making them the agents of her splendid charities, the British Bee-keepers' Association stands high, seeing that for over thirty years she was its loved and honoured president, not in name only, but during the whole time taking a deep and active interest in its work and welfare.

The valuable silver challenge cup presented to the Association a few years ago for competition in the honey section of the Dairy Show only passed finally out of its hands in October last, and earlier in the same year the Baroness instituted another competition connected with the parent body by the presentation of prizes associated with her own name to all its affiliated societies for the benefit of cottager members. All this proves that the well-doing of the labouring man and—may we add?—"Humanity to that Industrious little labourer the Honey-Bee" was one of the causes on which her heart was set.

Death severs all things, but it will, we trust, be long ere the affectionate regard of the bee-keeping world for the noble woman who has passed away is forgotten. We hope to deal at greater length in our next issue with her ladyship's connection with the Bee industry, and in the meantime we can but voice the deep sorrow felt by all bee-keepers at the passing away of one whose like we shall never see again. Honoured while she lived, she dies regretted by all, from the Sovereign to the humblest in the land, and by good people the world over.

The unfamiliar heading to this page, which heralds the opening of a new volume, reminds us that we start our thirty-fifth annual voyage on the—to us—apparently safe sea of Bee Journalism. During the intervening years we have seen many attempts, laudable and otherwise, to inaugurate new bee papers, and these have been attended with varied success; but we, the first and original paper entirely "devoted to bees and bee-keeping in this kingdom," stand to-day, as in 1873, the only "British Bee Journal."

Need we say how much of the long life and, we hope, continued usefulness of the paper is due to the generous and voluntary help given by our numerous contributors, without whose assistance it would lack the interest in each other's doings which forms the fraternal tie of all brotherhoods. Let us then once again express our indebtedness to all, and, while acknowledging numerous expressions of goodwill from all quarters, we heartily reciprocate the kindness of our readers, and, in tendering our thanks, send our best wishes for a prosperous New Year to all.

THE EDITORS.

A NOTABLE BEE CASE.

FROM OUR OWN CORRESPONDENT.

(*Continued from page* 512, *Vol. XXXIV.*)

Mr. Frank Baker, a bee-keeper, said that he had visited the locality on the previous Monday, and considered that the hives were too close, and that there were too many together for their own benefit. The judge here remarked: "This is a free country, and a man may place his hives where he pleases on his own property, provided they are not a danger to his neighbours." Witness did not remember ever having trouble from his own bees, even when he had honey on the table.

Mr. R. S. Walters, who had been a bee-keeper for ten years, gave corroborative evidence, saying that the hives were too close to the house. He admitted that if they were a nuisance the nuisance would be greater for the defendant than the plaintiff.

Mr. H. Maddocks, instructed by Mr. J. Haymes, Coventry, in opening the case for the defence, said he hoped to show that the bees were not a nuisance, but that this action was the result of ill-feeling between neighbours, which had existed for some time before complaints about the bees had been made.

At this point a discussion arose between the legal experts with regard to the questions to be put to the jury. The judge said that if the jury were to award contemptuous damages he should not grant an injunction.

The defendant, Mr. J. Reynolds, was then called. He said he had kept bees for seven years on the present spot and although other tenants had occupied the plaintiff's house, he had heard no complaint about his bees until August 11, 1905.

Only one complaint had been made since by the gardener. He had twice offered to move the hives if plaintiff would pay the expense; but this offer had been refused, and the plaintiff insisted upon having the hives removed to a plot of ground on the other side of the railway line. Neither he nor his family had ever suffered inconvenience in the house from the bees. The greatest number he had ever noticed in the house would be about half-a-dozen. No one had been stung in the garden except one of his daughters while she was manipulating the hives, about two years ago. The hives faced away from the houses, and the bees, on issuing forth, fly straight away, and do not forage in the immediate vicinity of the hive. His bees were attended to by Mr. Franklin, jun., who was a certificated expert. He had given plaintiff permission to increase the height of the fence, and thought this had ended the cause of complaint. He was still ready to move his bees as a neighbourly act if a more suitable spot could be found in his garden.

The judge here remarked that the defendant appeared willing to make some changes, but plaintiff could not agree as to these. The defendant did not suggest that none of his bees entered the plaintiff's house, but that all the bees found there did not come from his hives. Bees coming back to their hives would be full of honey, and would not be likely to forage in the garden. The bees did not come into his own house, even if sweets or pineapple were on the table.

Miss Olive Reynolds, daughter of defendant, corroborated the evidence of the latter as to bees not being troublesome in their own house or garden. Although she was much at home, and played in the garden in the summer, she had only once been stung—about two years ago. She was accustomed to bees, and was not afraid of them, and had not seen more than one or two bees at a time in the house, generally in the evening.

Mr. Hazlewood said he had lived in the plaintiff's house for twelve months, from January, 1900, when the defendant's bees occupied the same position as now, and during that time neither he nor his family had ever suffered annoyance from them. He had one child of 12 months, and another of 8 years. He had scarcely noticed the bees at all, although they used the garden freely, and the children played in it.

Mr. G. Franklin, B.B.K.A. expert and lecturer to the Worcestershire County Council, knew the position of the hives in defendant's garden, as he had placed them there. He approved of the position as being the best under the circumstances, and the bees were not likely to cause a nuisance. Bees usually foraged at a distance from their own hives. Improperly handled, no doubt bees might be troublesome; but in this case they were under competent management. In reply to the judge witness said some bees were more vicious than others. These bees, however, were British, and not vicious. He himself had 57 hives, the nearest of which was about 12 yards from his house; but the bees never occasioned any nuisance, either to himself or family. The plaintiff had spoken to him about reducing the number of his (plaintiff's) hives to two, and placing these in his own garden. But, owing to plaintiff's absence from home at the time and other reasons, the hives had not been moved.

In cross-examination, Mr. Franklin said he did not think the two hives referred to could have been placed at a distance of 50 yards from the house, the garden not being large enough. Nothing had been said about moving the plaintiff's bees into a field. His own bees were all together inside a wire fence, the hives facing in all directions. Bees might scent sweets in a house if flying past an open window. They ignore flowers near their hive, and fly in a straight line away from the entrance. Bees seen in a bee-keeper's garden would probably be those of his neighbours. Bees that get inside one's clothes do not necessarily sting. A sting always causes pain, but one becomes immune to the after effects. Bees do not distinguish persons. It was suggested that the hives could be placed with the entrances facing a grass meadow, but there might be danger to horses by so doing, especially during hay-making, as bees were more likely to attack horses than human beings. He thought it possible that during the slaughter of bees in the plaintiff's house the bees might be likely to retaliate.

Mr. Franklin, jun., assistant expert to the Warwickshire B.K.A., approved of the position of the hives, and did not think the bees would cause a nuisance. They were of a gentle strain, and not likely to sting. If complaints had been made he would have heard of them. The judge here remarked that "no one would say that one or two stings from bees were a nuisance."

On the second day of the trial, Mr. Walter F. Reid, F.I.C., F.C.S., stated that he was a member of the Council of the B.B.K.A., and a first-class expert of that Association. He had been a member of the Superior Jury at the International Exhibition at St. Louis, and of the International Jury at the Milan Exhibition, and he had also been for many years a bee-keeper. He had examined the defendant's hives, which were well kept and in good condition. The bees were British, and not vicious. When bees left their hive they usually flew straight away from the alighting-board and

made for the open country. In this case their line of flight would be directly away from the plaintiff's house and garden. He could see no reason why they should turn back and go over the fence towards that house. He had never known bees molest anyone in a house unless interfered with. His Lordship here remarked that it had not been suggested that the bees had invaded the house like an army, but that they got under someone's clothes by accident, and then stung. Mr. Young remarked that they would also get into a lady's hair and then use their sting.

Continuing, the witness said that in his opinion the hives were in the best position in which they could be placed having regard to the position of the plaintiff's house.

In cross-examination, the witness said that he did not agree that it would be better for the residents in a house if the hives were placed farther away. It was also a question of which way the hives faced. It was not at all unusual to keep so large a number of hives so near a dwelling-house. He knew of dozens of cases where more were kept. As to the distance to which individual bees might be traced upon the wing, witness stated that he had been informed by bee-hunters on the Mississippi that under favourable circumstances they could follow up a bee to a distance of about a quarter of a mile. For that purpose they attached a piece of down to the bee. Under ordinary conditions the distance at which a bee could be seen would be about the length of that court, or say 50 ft.; but under favourable conditions, especially of sunlight, they might be seen at about 75 ft. Counsel then suggested that 75 ft. would, therefore, be the maximum height to which a bee might be traced in its flight. In reply, Mr. Reid said it would hardly be safe to put it that way. He (witness) happened to be honorary expert to the Aero Club, and when in balloons he had seen bees at much greater heights. It would not be feasible to follow a single bee in a balloon. Asked by Mr. Young whether he was not looking forward to aeroplanes as an aid to bee-keeping, witness said he rather took the opposite view. The aeroplanes might fall on the hives, to the mutual detriment of bees and aeronauts; but it would then be an interesting question as to which was the nuisance! When bees left their hive they usually flew straight away, especially in the summer. At other times of the year bees might buzz round the hive for a short time on what was known as their "cleansing flight"; but on such occasions they did not forage. The distance at which bees could scent food depended chiefly upon the direction and velocity of the wind; he had known bees gather honey from heather at a distance of two miles.

With regard to the "buzzing" round the hives, Mr. Justice Phillimore remarked that it was not the buzzing bees that gathered the honey; drones made a great deal more noise than those that did the work. Asked as to whether jam and pineapple would not attract bees, the witness said they would not touch pineapple, and only certain kinds of jam. Strawberry jam and jam made from ripe plums might attract them; but jams of an acid nature, such as red currant, were refused by them in some experiments which he had made on the subject. In re-examination, Mr. Reid said that, given a favourable wind, the bees from plaintiff's own hives would be more likely to come to his house than those of the defendant. In summer, during the honey-flow, bees preferred flowers to sweets and even to honey itself. The bees that buzzed most around hives in summer were drones, and had no stings.

(Continued next week.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the Literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*The Editors *of the 'British Bee Journal,' 8, Henrietta-street, Corent Garden, London, W.C." All business communications relating to advertisements, &c., must be addressed to "*The Manager, *'British Bee Journal' Office, 8, Henrietta-street, Corent Garden, London, W.C."*

NOTES BY THE WAY.

[6564.] With this issue of the British Bee Journal we begin a new volume on bees and bee-keeping and also a new year. As I write the old year is a-dying amidst a wintry scene of frost and snow, the winter wind sighing wearily over the desolate outlook! To-morrow we shall hail the new year with our best wishes for prosperity and progress to all friends. I extend the same to our readers, trusting that the year may be a record one for bee-keeping. Father Time has garnered in some of our brotherhood during the year, leaving gaps in our ranks which it will be hard to fill, and to-day's *News* chronicles the death of our lifelong benefactress, the Baroness Burdett-Coutts. These losses, which, no doubt, our Editors will refer to, should stimulate those of us who still remain active in the craft to a renewal of our energies in the endeavour to eclipse our efforts of previous years.

Zinc Covers for Hive-Roofs.—These items continue cropping up in our pages, and new recruits to our ranks may not have previous volumes to refer to on the subject, consequently those of us who have repeatedly written on the subject are sometimes reluctantly debarred from enlarging on so well-worn a theme. To those who make their own hives I would suggest, if it is intended to cover roofs with zinc, that the shaky outside boards of the deals used can be utilised in making the roofs, leaving the best boards for the construction of the hive-body. When I made my own hives in the early 'eighties I used to buy 3in. by 11in. deals, and had them sawn into four boards, and made the body of hive from these 11in. boards. The hives were made of the regulation height to take the B.B.K.A. standard frame. This practically was "Abbott's combination hive"; but instead of hinges, allowing the hive to turn up from the back, I used two strong wire nails, partly driven into the top outside corners at front of the body-box, and by this means the roof could be easily turned up on these projecting pins, with the additional advantage that the roof could be lifted off by simply untying the string used to keep the roof from falling over when roof was raised for manipulating.

Our bees have had a long confinement indoors through inclement weather; therefore, so soon as the snow goes we must not forget to see if the damp has got in and saturated the wraps. If any are wet they should be replaced with dry ones, and if the candy is eaten a fresh supply should be given. All operations should be carried out with as little disturbance as possible to the bees.—W. Woodley, Beedon, Newbury.

CLEANING UP WET COMBS.

[6565.] I think our good friend Mr. H. Potter (6563, page 515) is a little off the track when, speaking of combs turned bottom-bar up, he says, "therefore they cannot store honey in them without first making structural alterations," &c. That bees will more readily clean out wet combs when so placed is possible, but that they cannot store honey therein when placed in that position is entirely wrong. Bees can, and often do, store honey in inverted combs; in fact, I have known syrup to be stored in the cells on the underside of a comb laid horizontal on more than one occasion. Bees will, as a rule, not refuse to clean up extracted combs when placed above quilts with the feed-hole in quilts open, or above a super-clearer with the slide drawn, especially if there is no honey being gathered at the time and plenty of room below. But it is both easier and more convenient to have wet combs cleaned up in supers than having to handle each one separately. If bees are reluctant to do the work required of them put the combs in an empty hive, allowing a very small entrance after the bees have found it, and they will soon be dry. Of course the hive containing wet combs should be placed as far as convenient from the bees. —W. H. S., Mapperley, Notts.

[6566.] Referring to the letter of Mr. H. Potter (page 515) on "Cleaning Up Wet Store-Combs," I, like your correspondent, am surprised at the difficulty some B.B.J. readers have experienced in getting their wet combs cleaned up. Our honey up here is too thick to sling out with the extractor, therefore it has to be pressed out, and to get the wax—wet with honey—cleaned we break it up and put it in a shallow cardboard box, making a hole in the box-bottom to correspond with the feed-hole in quilts. In this way the bees themselves will remove all the honey off the broken wax, leaving it quite dry. I might say the bees like this very well, and soon devour what honey is left on the combs. Wishing you the compliments of the season, I sign myself—A. S. P., Padiham, Lancs.

(*Correspondence continued on page 6.*)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

The mention of a name so well known as that of our esteemed former contributor R. A. H. Grimshaw, better known by his *nom-de-plume* "'Xtractor," will revive pleasant memories among old readers of the B.B.J., who, it is certain, will join us in sending all good wishes to our old friend, with regrets for the cause which keeps him away from town. His son Darcy is, judging by the photo, a veritable "chip of the old block" from the likeness to his father. It is a pity the "Hut," where the latter's numerous racy contributions to our pages were written, could not have been shown; but we are glad to hear that the son inherits his father's love for the bees, and hope he will carry on the old bee-traditions attached to the name of Grimshaw. For the rest, his reminiscent notes speak for themselves. He says:—

"In reply to your request, I have pleasure in sending a few notes to go with the photo of my bee-garden, which I am very proud of. In fact, I spend all my spare time amongst the bees. You will see from the notes I have mentioned my father, R. A. H. Grimshaw, well

known to older readers of the BEE JOURNAL by his *nom-de-plume* of ''Xtractor.' I know he won't mind it—in fact, he suggested that I ought to manage to get the 'Hut' in the picture, and say 'this is where some of the earlier articles headed "In the Hut" were written.' But to begin my notes with my first start, I would say:—Many of the bee-keepers whose apiaries have appeared in 'Homes of the Honey-Bee' commenced their hobby with straw skeps. Mine was rather an original start, and that was with humble-bees. How long ago? Well, when referring to cuttings taken from the Children's Column of the *Leeds Mercury* Weekly Supplement, to which I used to contribute when a schoolboy, I find it was in the summer of 1885, and my first hive was an old octagonal clock-case, a description of which appeared in the B.B.J., May 12, 1887 (page 207). I remember I used to watch these humble-bees so often that I wore the grass off the lawn where they stood, and my father, who was a garden enthusiast at the time, suggested their removal; but when telling one of his commercial friends in London about them, said, 'Oh, I should let him keep bees,' and as another friend who lived at Boulogne had some real honey-bees for sale, my father bought them (*vide* 'Removing Bees,' B.B.J., February 18, 1886, page 74), and I have been a bee-keeper ever since, with a short break, when I 'swarmed,' left the parental roof, and started housekeeping on my own account.

"The little girl seen in the picture is my eldest of four, eight years of age, and from what she already knows about the bees bids fair to become one of the craft shortly; in fact, she now wants a hive 'all her very own.' I think I shall have to let her start on her own account.

"I am sorry I could not include the 'Hut' in the photo. I use it now to store my appliances in, graft queen-cells in, &c.; but in its early days many of the articles from the pen of ''Xtractor' were written therein. I regret to tell your readers that my father, after having several slight strokes of paralysis, has now retired from business, but still takes an interest in bees, and occasionally gets down to my bee-garden.

MR. DARCY R. GRIMSHAW'S APIARY, CROSSGATES, NEAR LEEDS.

"I have eleven stocks, all Italians, and many of them headed with the progeny of queens I imported from G. M. Doolittle. I have also about a dozen nuclei containing home-raised queens awaiting fertilisation.

"I am very fond of grafting the tiny larvæ in queen-cells of my own manufacture, as Doolittle does, and think this is the most wonderful part of a highly interesting pursuit.

"I make all my own hives, and go on bee-driving expeditions in the autumn just for the love of working amongst bees, and am never so happy as when I am engaged on what is to me a labour of love. I have also done a bit of lecturing, besides giving many an impromptu lecture to friends and neighbours who happen to catch me at work.

"Foul brood? Yes, I have had a touch, through buying some 'cheap' (?) bees: but am glad to say, thanks to taking radical measures—*i.e.*, purification by fire—I am now clear of it.

"I am the proud possessor of a library of twenty-two ancient and modern bee-books, the most valued of which is an autograph copy of the 'Guide Book' sent by Mr. Cowan to 'the dad': also all the latest on queen-rearing, viz., Alley, Doolittle, Pratt, and Sladen.

"My father sends his kind regards, and, along with myself, wishes he could get up to the City once more to see his old friends.

"I conclude these rather rough notes by wishing 'long life to our Editors, and a prosperous season in 1907 to all brother (and sister) bee-keepers.'"

(*Correspondence continued from page 4.*)

NOTES ON MY "JUMBO" HIVE.

SUPERFLUOUS DRONES.

[6567.] In the spring of the year a friend presented me with a large hive (fifteen frames) with hinged roof, which had become a fixture, and which the bees had taken possession of as an upper story. This hive, which I term my "Jumbo," has been to me a source of great interest, and I watch it daily to observe what the bees are doing. It gave a splendid natural swarm early in June, and ten days after I found a dead virgin queen near the mouth of the hive, so there were no after "casts." At this time I intended breaking up the hive about twenty days after swarming, and transferring the bees to a new one; but when the time came I could not make up my mind to do so, though the hive is in a rather dilapidated condition and in a state of decay. The bees, having been left to their own free will, have, there is no doubt, more drone-comb than they require, and, as a consequence, there are a great number of drones. So in the afternoons, when the young bees and drones took their flight, the buzzing and general uproar, which could be heard a good distance away, were like the noise of a swarm coming off. It was quite an enjoyment for me to watch the drones careering about in the air. This continued till late in the autumn, and after that the bees could be noticed driving out drones now and again, but apparently did not make any great headway in reducing the numbers. It was not till November 23 that I saw the last of them.

It is generally stated in standard works that drones are killed off in the early autumn, when the honey-harvest is about over, and that hives that have them later on are supposed to be queenless. The fact of the bees driving them out at different times, and the strength of the worker population, caused me not to be concerned about the matter. There being a good supply of winter stores inclined the bees to allow the drones a longer respite than usual.

From my notes I observe that there were eleven days in November and six in December in which bees were entering hive laden with pollen-balls. December 20 was the last day I observed them. On the 16th of the same month, the weather being very mild for the season, there was a flight of young bees. Now we are into Arctic weather, and there will be no more pollen-gathering for some time. On looking over this hive on the morning after the Christmas fall of snow I found the entrance of hive blocked with loose snow, and some bees had made their way out in the morning before the sun had appeared, and were lying dead in the snow. I thought it well to remove the snow blocking the entrance, and found more dead bees amongst it. As sunlight could not have struck this hive, I am inclined to believe that the bees had attempted to clear away snow to admit more air.

Though I have other colonies working in more modern hives, in this one the bees are out earlier in suitable weather, and are more active and stronger in numbers than any of the other hives. It will be interesting to watch how it comes out in the spring. I am looking forward to having a big early swarm, if all goes well.—W. F., Ayrshire, N.B., Dec. 31.

USEFUL POINTS IN BEE-KEEPING.

HOME-MADE HIVES.

[6568.] The best and most satisfactory way of hive-making at home, in my opinion, is to buy the boards ready cut to one's own measurements. I have tried preparing boards, and, although a fair amateur carpenter, I never could get the hives exactly true. It is very difficult to saw a board exactly at right-angles, and if one gets an eighth of an inch wrong it throws the whole hive out of square. And as beautifully-cut wood may be obtained from some of your advertisers who are hive-makers, I do not consider it worth while to risk making a faulty hive for the sake of saving perhaps a halfpenny per run foot. Two things in our BEE JOURNAL have puzzled me lately. One is that the "wise heads" of our craft should think it worth while to discuss in council the question of winter feeding. Another is that "D. M. M." should have disposed of all his heather honey in the

centre of England at a good price, whilst at Pickering heather honey is being offered at 6d. per lb. or less! On the point first named it seems to me that it needs no discussion, seeing that every careful bee-man should have given the full supply of winter stores to his bees before October began. If he has failed in this it is his own fault. The honey-flow—except in heather districts—usually ends about mid-July, so there is ample time to examine stores and feed up where necessary before chilly nights begin.

As to the price of heather honey, surely "D. M. M.'s" customers must be private consumers. In this town, with a good-class population of over 41,000, I have difficulty in realising more than 8s. per dozen for 1-lb. sections, although the well-filled ones weigh 17 and 18 oz. Extracted honey in 1-lb. screw-cap jars brings the same price. A grocer within a quarter of a mile of my door has been buying sections at 6½d., though I have not heard that he retails them at 10½d.

I find that it pays to give one's hives a coat of paint every year. I now have by me several hives bought twenty years ago which seem as sound as ever, owing probably to their yearly coat of paint.—EXPERT, Cheltenham.

A MISUNDERSTANDING.

IMPORTING FOUL BROOD.

[6569] Your brief reply to my inquiry in B.B.J. of November 29 appears to have caused some misunderstanding owing to my having used the *nom-de-plume* "Expert," and I will be glad if you will allow me to clear the matter up. From what appears on page 480 the conclusion has been drawn that the inquiry came from the secretary of the Somerset B.K.A., who lives at Weston, and naturally resents the inference that he was incapable of recognising a bad case of foul brood. I showed the comb to Mr. Snelgrove, and he said decidedly that it was diseased. A number of stocks from the same apiary, however, had been sold to bee-keepers outside the district, who, I had reason to believe, were not likely to recognise the danger incurred. As, however, they were strangers to me, I thought a telegram from headquarters would be useful in case of any difficulty arising with them. The stock from which sample was taken was brought from Ireland last spring, and evidently foul brood came with it, as the district had till then appeared quite free. Having made a good blaze with the skep and its contents, I am hoping it was not discovered too late to prevent the neighbourhood being infected.—EXPERT, Weston-super-Mare.

COMPLAINTS ABOUT BEES.

[6570.] I should esteem it a great favour if you would kindly give me your opinion, through the columns of the B.B.J., on the following:—

I own six stocks of bees in hives placed at the bottom of my garden, facing a field. Recently a builder has taken the field for building purposes, and has erected a fence 6ft. high, and a shed on the other side just 5ft. in front of the hives, thereby obstructing the bees' flight. Some time ago the aforesaid builder came in a very rude manner and threatened to send for the police if the hives were not moved, as there were several hundred bees round his shed at the time and he had been stung. I expressed my regret at this and offered to move the hives some distance away gradually; but he said they must be moved altogether at once.

There was no particular reason why he should have chosen the spot in front of the hives for his shed, nor do I think he would have been stung had he not tried to kill the bees. I assured him that in a day or two the bees would get used to the obstacle and would fly over; but he seems bent upon trying to have them removed.

Can he compel me to remove the hives as being a nuisance? I know I am liable for damage done by the bees; but this man seems unnecessarily afraid, and strikes at any bee flying near him.

My neighbours have never complained of the bees, even in the hot weather, and I have never been stung myself, except while manipulating, although I have spent hours among the hives, the bees being extremely good-tempered. Thanking you in anticipation, I send name for reference.—M., Bristol.

[The fact of the builder referred to having been stung when striking at bees on the wing near him at the time cannot be a valid cause for compelling removal of hives kept for some time without any complaint from neighbours. It might be well for you to peruse the details given in the recent "Bee Case" tried at Birmingham, details of which are now appearing in our pages.—EDS.]

MATERIALS FOR HIVE-MAKING.

[6571.] Bee-keepers generally are thankful for any advice that tends to benefit them in their hobby, and I for one beg to thank "Timber Merchant" (6548, page 497, last year's volume) for his clear definition of the different woods named therein. I can at the same time confirm the suggestion that "Quebec yellow pine"

is the best for hive-making; but I do not consider it necessary to have the "best," as timber merchants, as a rule, always ask prices that are inconsistent with profitable honey-production. Let us hope, however, that ere long some timber merchants may become bee-keepers, and thereby learn to ask a more reasonable price for the wood referred to. On the other hand, I would like to say several dealers and hive-makers supply the right kind of wood in any quantity, and planed both sides.

I could show hives made from this wood thirty years ago still in use, and quite sound. There is no joint in the roof, and over the "knots." I glue circular bits of unbleached calico on the inside (seems to make the wood stronger), and give two coats of "knotting" on the outside before painting, which makes the hives a fit residence for the goose that lays the golden egg. I enclose card.—"MELLIFICA," Bath.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Gooseberry Mildew (page 491).—*Sphærotheca mors-uvæ* sounds even more formidable than *Bacillus alvei*, and treatment as drastic is apparently as necessary for this form of F.B. as the other. No mention is, however, made of destroying the queen gooseberry. Clearly the good bush needs no wine, but what kind of a diet is gooseberry and Bordeaux mixture? Whether the bushes throve or not upon it, methinks there would be a big berrying season!

Lancaster Show (page 491).—Under which of these headings—viz., stock, poultry, and dogs—are bees included? Cats is dogs, and parrots is poultry, but these here bees is insecks!

Good Skeps (page 492).—"The best hives made in England" reads suspiciously like a free advt. for Tomas May and William Harper, but perhaps the Editor has allowed it to pass, as the makers seem to have gone the way of their handiwork many generations ago. A skep made of "osier twigs daubed with clay" should last, one would think, for a century or so. Did the Romans under Julius Cæsar seize and commandeer the British coracles, and thwartfully convert them from their baser use?

"Capping hives in August" sounds as though heather honey were not unknown to the ancients, and it would be interesting to know whether they increased their autumn harvests by cappings of comb!

Pronunciation (page 493).—Can we not have a full and carefully revised list of bee-words? Also, in place of somewhat weird attempts at phoneticism, can we not adopt the standard phonetics of a good dictionary?

Claustral Chambers (page 494).—The reasoning by which "A. H." arrives at his conclusion that interior space is preferable to exterior space is not clear. It may be, but there does not seem to be anything in the facts related which justifies the comparative condemnation of the chamber. I have no practical experience of the device, but can we not now have a report from users of it for the benefit of those who are interested?

Honorary Degrees (page 496).—Surely your esteemed correspondent "H. Newman, M.A.," is not serious in suggesting that a few years of bee-keeping and a little assistance given to a qualified expert entitle him to a certificate? It may be, of course, that he is capable of passing, but at least he should, if he desires the distinction, be willing to submit himself to the usual examinations which have had to be undergone by those with whom he has had the advantage of working. None should know better than he that the value of a degree lies in the difficulty of obtaining it. His suggestion is perhaps a little more surprising, as he appears to have severed himself from active co-operation with the Association.

Bees "Fanning" (page 504).—If a hive be fairly sealed at the top it must be apparent that whatever quantity of air is exhausted at the entrance must be equalled by the quantity admitted there. If there is upward ventilation to any extent through more or less pervious quilts it would perhaps be detectable at the cone escapes; but to suggest that the bees can assist this ventilation through the quilts is to suppose them capable of setting up atmospheric pressure in the hive, which contingency is extremely improbable.

If it were possible to accurately determine the direction of the various currents in the hive it would, I think, be found that apparently desultory bees were in line with the curve of such current. The legs of the bee are favourably constructed to resist not thrust, but pull, and the whole attitude of a fanning bee is suggestive of a very definite pull upon the powerful hind legs. One day this summer I noticed quite a number of my hives showed fanners at the left of the entrance, which may have had some reference to the uniform position of my brood-nests or to the prevailing wind.

Hand-picked Drones (page 507).—Surely it would be easier to pick out well-favoured drones by the use of a screen which would only allow the best and largest to pass through!

1907 A.D.!—A happy New Year and a good season to all friends of the B.B.J., and not least of all to those whose combs I am so kindly allowed to assist in "uncapping." I trust I never cut too deeply.

A MAP IN THE BEE'S BRAIN.

APIS MELLIFICA AS A TOPOGRAPHER.

I had so often met with the general statement that swarms of bees will establish themselves in holes in trees, and yet never met with the fact, that I began to doubt it. In the New World bees, we know, are often found storing honey and carrying on their commonweal in hollow trees; but in England we expect to find the wild honey bees about the roofs of houses and in church towers rather than in woods. However, I have quite lately been persuaded that bees do sometimes settle in trees, for I have found them there myself. Close to the church at Eversley, in a hole in a tree by the road to Winchfield, is a settlement of bees which only ceased to work when the ivy blossom was over. The ivy is, I think, quite the last flower-feast of the insect. It draws many eager insects either because it is rich in sweet-wealth or because it is their only source of supply at the season. Through whichever cause, the ivy on sunny walls and tree trunks is a buzz of little wings in autumn. This season I have noticed many wasps there as well as flies. Trust the honey bee to discover when the ivy blossom is sweetening. What a topographer the honey bee is in the matter of things that blossom!

Say the honey-seekers of a hive have a sphere of two miles. Try to draw a bee map of that sphere, marking on the map not roads and villages and such-like, but patches of plants that produce honey and pollen—in fact, a honey and pollen guide: though you have lived in the district all your life, and made long and loving study of all its kinds of trees and flowers, your map will scarcely compare in minute exactness with that the bee has in her brain.

Even suppose you can on your map set down as truly as the bee where is this large patch of sainfoin or of charlock, or of raspberry canes, and where are the thousand and one scattered and smaller ones of lime, heather, wild thyme, white clover, and so forth, yet you cannot affect to set a neat, exact date to the blossoming honey-prime of each patch, great and small, as the bee will. All through the flower season, beginning with the copse anemones—for I fancy she finds something of value there—and the perfumed sallows of early spring, and completing with the laggard ivy, the bee must be making and keeping up to date her brain map of the district. One blossom ceasing to yield, it must be marked "off" on her map, whilst others coming on in turn must be charted without the loss of a day, hardly, indeed, of a honey-precious, pollen-precious hour.

A map, then, of her flower world the bee must have in her brain, and nothing in this map but what will directly serve her; other than flowers, it will exhibit only such objects, landmarks, as enable her to fly in a bee-line to the flowers. How has the bee, I wonder, arranged her house in the hollow of the tree? Precise though she is in the making of each individual cell—a builder whose measurements never vary to a calculable fraction of an inch, though herself without a measure—she does owe something of the precision and ship-shape of her hive to the bee-master. It is he who hangs the nine brood and honey combs in an exact row, who fixes the supers nicely level with the ground. Without the bee-master's prompting and his foundation to work upon, her combs would be awry. In the hollow of the tree no doubt they are awry; a bit of comb here, a bit there, ledges or ridges, perhaps, like those of the strange, leathery polypores which grow on the trunk of the old ash and elm trees. The fact that bees can live through the winter in such places seems to show that they are not quite so much at the mercy of the cold as we sometimes suppose.

No quilt or carpet keeps them warm in the hollow tree, and there is nothing to prevent the north wind whistling in. Many bees, indeed, isolated by a few inches for a few moments from their fellows, must perish in such quarters when the winter is hard, but the bulk live simply by forming one great cluster at the heart of the honey-combs, this cluster only shifting very gradually as the cells about it are drained of honey. A seething bee cluster, hung high in the midst of the combs, looks the very contrary of all order and method. But we know that really it is the perfect plan, and the only plan by which the bees can live through the hard months.

The cluster is the bees' fire, fuelled and stoked and kept at a high and steady glow by their own bodies.—GEORGE A. B. DEWAR, in the *Standard*.

Queries and Replies.

[3453.] *Bee-keeping for Profit.*—Though only in my second season as a bee-keeper, I am a much older reader of the BEE JOURNAL, having taken it regularly and also secured a copy of the "Guide Book" from the day I first thought of trying my hand at the craft, and I trust the time will come when I shall be able to send you a photo of my garden for inclusion in "Homes of the Honey-Bee." I make my own hives, believing it gives greater pleasure and deeper interest than if I bought them, and I find each hive made is an improvement on the last. What I want to ask you is this: I thought of trying to secure a small house, with about two acres of land, not altogether to make a living, but just to pay for itself, and more as a hobby at present. I thought of having, in addition to my bees, a few poultry and pigs, and grow some fruit trees—say enough to keep one man at work. Could you, therefore, let me know, through the B.B.J.: 1. What you consider the best book to secure for me to work upon? 2. Also the best county in which to look for a place suitable for bee-keeping, that being the subject I am most interested in? I did not want to go too far from London. Thanking you in advance, I enclose name, &c., as usual.—A. J. E., Peckham Rye, London, S.E.

REPLY.—1. We do not think it needful to consult any book beyond the one you already have. If it has taught you how to keep bees as a pleasure-giving hobby, and to make your own hives, the most advisable step to take next would be to gain a little practical experience in an apiary where bees are worked with profit to their owner. One where such other allied employments as fruit-growing and poultry and pig keeping are carried on would, of course, be an additional advantage. It should not be difficult to find such a place among the many in the occupation of our readers. 2. The counties of Essex, Surrey, Hants, Wilts, and several others all have good districts for bee-forage. One of the most important items for consideration is to choose a spot where honey of good quality can be secured; that of inferior grade is often the greatest drawback to success.

PRESS CUTTINGS.

BEES BY POST.

No live animals except bees will be carried by post between Great Britain and Nicaragua, according to a parcel post agreement just concluded between the two countries.—*Daily Express.*

SCOUTING BEES.

M. Bonnier has read a paper before the French Academy of Sciences announcing his discovery that each hive of bees possesses an intelligence department, which sends out scouts to discover where honey and other good things are to be gathered.

M. Bonnier noticed that some bees remained hovering about flowers for a long time, as if prospecting. He marked some of them, and found that when they discovered a "good thing" they flew direct to the hive with a sample, returning almost immediately with many companions.

Sometimes he found that the scouts appeared to give directions in the hive to their companions, for the bees began to stream out and fly to the indicated flowers unaccompanied by any of the "scouts."—*Evening Standard.*

EIGHTY THOUSAND TONS OF HONEY.

A Consular report from Seville furnishes recent statistics in relation to the world's production of honey, which designates Spain as second in the supply of that product, the total number of her bee-hives being 1,690,000, and the quota of honey furnished by her 19,000 tons, out of 80,000, the world's yield. Germany, with 2,000,000 bee-hives, produced 20,000 tons of honey, a larger quantity than any other country.—*The Tribune.*

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

J. S. C. (Leicester).—*Free Insurance for Bee-keepers.*—1. There is no need to do more than to forward the subscription receipt for our journal to the office of the Casualty Insurance Co., 7, Waterloo-place, London, as stated in the advertisement in the B.B.J. The coupon need not be signed at all, as you will observe in the "special notice" at foot of the column. 2. We have not had any notification from Mr. Pratt ("Swarthmore") with regard to the book "How to Make a Queen Lay in the Compressed Cups." We therefore conclude that the booklet in question has not yet been published.

*** *Some Queries and Replies, &c., are unavoidably held over till next week.*

Editorial, Notices, &c.

Obituary.

THE BARONESS BURDETT-COUTTS.

All will readily admit the claim of the Baroness Burdett-Coutts to be considered eminent amongst bee-keepers; for from the time she came into our midst she unwearingly laboured to sustain and develop the bee-keeping industry; and she was most felicitously designated the "Queen-bee" of our community. We feel not a little proud that the British Bee-keepers' Association had for its President a lady who had for so many years occupied so unique and prominent a position in the history of the nation.

The Right Honourable Angela Georgina, Baroness Burdett-Coutts, was born on April 21, 1814. She was the youngest daughter of the late Sir Francis Burdett, Bart., and granddaughter of Mr. Thomas Coutts, founder of the well-known banking-house in the Strand. In 1837 she succeeded to the bulk of the property of Mr. Coutts through his widow, once the fascinating Miss Mellon, who died Duchess of St. Albans. In many cases the possessor of such boundless wealth would have been turned by its hardening influences into a cold and worldly woman, but fortunately the predominating trait in the character of the Baroness was a charitable sympathy with those into whose lives little of brightness entered. The power and responsibility of benefiting her fellow-creatures, thus conferred on her, the Baroness wisely and conscientiously exercised in carrying out

THE BARONESS BURDETT-COUTTS.

(President British Bee-keepers' Association, 1878-1906.)

a multitude of projects which have had for their aim the welfare of the world at large.

As a consistent member of the Church of England her liberality has been on an almost unparalleled scale. Besides her contributions towards building new schools and churches in various parts of the country, Miss Coutts erected and endowed, at a cost of £90,000, the handsome church of St. Stephen's, Westminster, with its three schools and parsonage, and another church at Carlisle. Through her energetic munificence the three Colonial Bishoprics of Adelaide, Cape Town, and British Columbia have been endowed, besides promoting an establishment in South Australia for the benefit of the aborigines. She also supplied the funds for Sir Henry James's Topographical Survey of Jerusalem; secured numerous Greek MSS. from the East for the verification of the Sacred Scriptures; and offered to restore, at her own charge, the ancient aqueducts of Solomon to supply Jerusalem with water—a work, however, which the apathetic Government of the Sultan failed to undertake.

At home drinking-fountains have been provided by her in various parts. The most striking ornament in North-eastern London is a beautiful temple in Victoria Park enclosing a public fountain. A similar work of art adorns one of the entrances to the Zoological Gardens in Regent's Park; one was erected at Manchester, where, on the occasion of its opening, she received a most enthusiastic reception; and another in the neighbourhood of Columbia Market; and the numerous cattle-troughs to be seen in the roadsides about London bear evidence of her thoughtful agency. In the desire to provide and increase the supply of wholesome meat she purchased one of the blackest spots in North-eastern London, called Nova Scotia Gardens, and there erected the model dwellings called Columbia Square; and close to it Columbia Market, one of the handsomest architectural ornaments in that part of London. Columbia Market was opened to the public in 1869, and a few years later the Baroness made over the vast buildings to the Corporation of London as a free gift. Unfortunately the scheme did not prove a success, and the market was reconveyed to the Baroness in 1874.

As one of the great means of benefiting her fellow-countrymen the Baroness paid great attention to judicious emigration. When some years ago it was found necessary that the starving families of Girvan, Scotland, should seek the means of existence in another country, she advanced large sums for their transmission to Australia. Again, when the famine was raging in the neighbourhood of Skibbereen, Ireland, relief from the same open-handed source was forthcoming: some of the families were assisted in emigration, others were helped by the establishment of a store for food and clothing, and others, by giving them a vessel and fishing-tackle, were enabled to prosecute fishing as a means of livelihood. It would be impossible in a sketch like this to follow the Baroness in all the undertakings that her means permitted her to carry out. They were of the most diversified nature. We find her assisting Rajah Brooke in improving the condition of the Dyaks in Borneo, and establishing a model farm, by which the riches of that country and the productiveness of the soil have been developed. Again, we find her laying out the churchyard of Old St. Pancras as a garden for the surrounding poor, and erecting a sundial as a memorial to those who had formerly been buried there. The Baroness took great interest in the Whitelands Training School for Female Teachers; her annual addresses to the young women at the annual distribution of prizes were mostly of practical advice. She did much good service in promoting higher education, having endowed a professorship at Cambridge for teaching an important branch of physical science. The Baroness was the means of instituting the Turkish Compassionate Fund, by which thousands of the Turkish and Bulgarian peasants were saved from starvation and death. For her services in this matter the Order of the Medjidje was conferred on her by the Sultan.

In June, 1871, Miss Coutts was surprised by the offer of a peerage from Her late Majesty, which honour was accepted. Her ladyship received the freedom of the City of London on July 11, 1872, and that of Edinburgh January 15, 1872. Several of the City Companies conferred on the Baroness their freedom and livery in recognition of her illustrious actions. When on a visit to Ireland, where she had organised a fishing fleet having its headquarters in Bantry Bay, she was received with the greatest enthusiasm.

The beautiful garden and grounds of her villa at Highgate were the frequent scene of her munificent hospitality, and were constantly thrown open to school-children in thousands. In July, 1867, she gave there the largest dinner party on record; two thousand Belgian Volunteers were invited to meet the Prince and Princess of Wales (now our King and Queen) and five hundred other noble and distinguished guests. The large and verdant lawns were made picturesque by gaily decorated tents, in which the whole party dined with comfort and convenience. The Baroness was a distinguished patroness of artists and literary men, and her hand was ever ready

to assist any institution which had for its object the elevation of her sex and the protection of children. Whilst Miss Coutts she established and supported a reformatory whence a large number of degraded women have passed to the Colonies, where they have had an opportunity of leading a new life. Her attention was directed to the claims of dumb creatures, and the interest she took in them was abundantly shown by her exertions in their behalf, in the energy and constancy of which no one has surpassed her. Nowhere was the Baroness more conspicuous than when presiding at the various institutions which are held in the rooms of the Royal Society for the Prevention of Cruelty to Animals. We believe that the Baroness laid the foundation-stone of these useful buildings.

The Baroness was married on February 12, 1881, to Mr. William Lehman Ashmead Bartlett, who obtained the royal licence to use the surname of Burdett-Coutts.

The Baroness Burdett-Coutts proved a faithful friend to bee-keepers, and at all times entered with zeal into anything the Chairman of the Council brought before her. When the Rev. H. R. Peel, in 1878, volunteered to undertake the duties of secretary to the B.B.K.A., his first care was to prevail on her ladyship to accept the Presidentship of the Association. To this she kindly gave her consent, and was elected on April 20, 1878. It is interesting to note that at this extraordinary meeting of the members the present Bishop of Lichfield presided. On many occasions, by her well-timed liberality, has she removed obstacles to the progress of our bee-keeping industry. We are indebted to her for valuable assistance at the Kilburn Show, the first great show held in connection with the Royal Agricultural Society, which proved such a success that the "Royal" have entrusted the management of the Bee Department to the B.B.K.A. ever since. Her ladyship also helped in acquiring for the Association the library collected by Mr. Desborough, which formed the nucleus of the present library; and in assisting the B.B.K.A. in defraying the expense of the mission of Messrs. Abbott and Carr to spread abroad a knowledge of bee-keeping in Ireland, which led to the formation of the Irish Bee-keepers' Association. In addition to these we have already alluded in our notice last week to the way in which she has more recently assisted bee-keeping.

The Baroness presided for many years with great regularity at the annual meetings of the Association, until her age and state of health prevented her from attending. But even then the Association was not forgotten, and she usually, through the medium of the Chairman, sent some kind message. We are indebted to her for many wise counsels and practical suggestions when she came amongst us. She had a clear judgment, a large heart, great facility in speaking in public, and a strong mental constitution which enabled her to overtake a large amount of solid work.

It is impossible in a brief sketch of this sort to enumerate all the good works she initiated, but all the schemes connected with her name were marked by a certain individuality, and whether successful or not, every project she originated was touched and moulded by her own practical insight and guidance.

Personally we feel the loss of our late President as that of an old friend, whose end comes as a reminder to those of us who have been for so many years associated with her ladyship that we must give place to younger men, as having earned the retirement from active labour which age brings to us all.

In the midst of all that could add to the impressiveness of the surroundings, the remains of "the last great woman of the Victorian era" were laid to rest in Westminster Abbey on Saturday, January 5. Nothing could have been more expressive of the simple dignity of the closing scene of a noble life; nor will any of the vast congregation of mourners present ever forget the signs of emotion visible on all sides.

From the moment the funeral procession entered the Abbey, and, headed by the choir and clergy, the body was slowly borne through the cloisters to the bier prepared for it in the choir, the intense silence was broken only by the mournful and beautiful music of Dr. Croft's setting to the words of the liturgy of the Church appointed for use on such occasions. One cannot imagine a spot in the whole world so hallowed in its memories as the venerable Abbey of Westminster, or where a scene so solemn and impressive as that of Saturday afternoon could be enacted. And when, at last, the coffin was reverently carried from its temporary resting-place to the graveside, not a sound save that of uncontrollable emotion could be heard amid the vast silence while the organ pealed forth Handel's wonderfully pathetic Dead March; and so passed out of sight all that remains of a noble woman, of whom it has been truly written:

> Long with us, now she leaves us; she has rest
> Beneath our sacred sod;
> A woman vowed to Good, whom all attest,
> The daylight gift of God.

Among the wealth of floral tributes in memory of the late Baroness sent to

Stratton Street, Piccadilly, was one from the British Bee-keepers' Association. The chairman (Mr. Cowan) was unfortunately prevented from attending the funeral owing to illness, as was also Mr. E. H. Young (secretary) from the same cause.

Mr. W. Broughton Carr and Mr. Walter F. Reid represented the Association at the Abbey on the occasion.

In reference to a report which has been in circulation that the remains of the late Baroness have been cremated, Mr. Burdett-Coutts wishes to state that nothing of the kind has taken place or will take place.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the Literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*The Editors *of the 'British Bee Journal,' 8, Henrietta-street, Covent Garden, London, W.C." All business communications relating to advertisements, &c., must be addressed to "*The Manager, *'British Bee Journal' Office, 8, Henrietta-street, Covent Garden, London, W.C."*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

AMONG THE BEES.

THE BEE'S FLIGHT.

[6572.] At times we are told (perhaps) fabulous stories of the distance it is possible for a bee to fly. I am not greatly concerned in trying to solve the problem. What interests me is how far can our hive-bees forage profitably from the home-apiary, as on this depends very considerably the amount of surplus our bees may yield in a season.

Here is an interesting item:—An experiment was made in feeding bees at a given central point some little distance from what we may designate the home-apiary. On the second day the bees seemed to have all scented the tempting sweet, as did also some other bees located about half a mile away. Apiaries up to a mile distant from the feeding centre pretty freely participated in the banquet. Yet in a large apiary a mile and a half away very few bees showed evidence of having discovered the food, and scarcely any two miles distant scented the spoils. In both of these last cases the amount stored was very small indeed, compared with what had been appropriated by the bees up to one mile from the feeders. The above test is, I admit, not exactly on a par with fields of forage equidistant from the various apiaries, but we can certainly reason from it that the nearer the nectar the more of it can the bees collect in a given time. And this leaves out of account the wear and tear incidental to distant flights.

An excellent authority gives it as his opinion that bees do not go much beyond a mile in a level country when working on clover. A home and an out apiary, situated about a mile and a half apart, were working on lindens, one wood being apparently a little distance from the other. After making a careful study of the subject he found that bees rarely, if ever, intermingled, and gives it as his opinion that the line of flight did not go much beyond half a mile. In the case of clover fields, however, they had to take a longer flight, and might be found two miles or even further from their hives. Yet he concludes: "I am satisfied that bees do not go much beyond a mile, even when working on clover." This also is the result of experience. "Time after time I have had occasion to move bees less than two miles, but always beyond a mile, and in only one instance have bees returned. Therefore it is unwise to expect much honey from a stock of bees located much over a mile from a honey-producing crop." It is not at all a question of bees flying over one or two miles if necessity arose, but the point I wish to bring out is that rarely from choice do they forage far from their hives. I should like—parenthetically—to say that a mile of a bee's flight might really mean two miles if we were to walk it. We have to follow the inequality of the ground. The directness of a bee's flight is proverbial.

The subject is receiving very careful study at present on the other side of the Atlantic, where the establishment of out-apiaries forms an important feature of the management of "bread-and-butter" bee-keepers, for over there many make their living solely from the prosecution of apiculture. The editor of *Gleanings*, who has journeyed over a large section of the Continent, and has come much in touch with bee-keepers, gives it as his firm conviction that so long as bees can gather stores within a mile and a half of their homes they will not go beyond that range. One of the most extensive bee-keepers in California says:—"The more I have to do with out-apiaries the more I am convinced that the most profitable work of bees is done within a very short distance, say not over a mile and a half, probably even less than this, from their hives." One extensive apiary is cited where the owner has this year practically no surplus honey,

whereas his neighbour only three miles distant from him has a good crop.

The important fact I would seek to deduce from all these facts and arguments is that the nearer our bees are to the chief sources of nectar the more certain shall we be of a big surplus. The less the distance bees have to fly, and the less they have to flit about from flower to flower, the more expeditiously will they be able to return to their hives, and the more prosperous will the results of their efforts prove.

My attention was drawn this year to an apiary situated in a wooded area, with any number of flowering trees all round the hives. Yet the surplus gathered was small. The most feasible explanation I could give was that the bees had ample scope on these mellifluous blossoms, which yielded only in small quantities, but just sufficient to keep them going, and so they neglected the far richer fields of clover not over a mile distant, which could have supplied them with a bountiful flow. If these beautiful trees were not so very near at hand it is my candid belief the bees would have foraged farther and fared better.—D. M. M., Banff.

SUPPRESSING HEATHER EXHIBITS.

[6573.] Our friend "D. M. M.'s" reply to my letter on page 463 vol. xxxiv., by no means improves his case. The waspishness is proved by his again using *the same sting* —viz., the accusations that the exhibition of heather honey is being suppressed; that prizes are systematically withheld from heather-honey exhibits; and, worst, that "money fairly won by somebody is withheld." Of criticism, fair or unfair, I can be as tolerant as anyone, but these are not criticisms; they are accusations of dishonourable conduct, and are quite intolerable. I give all three a flat contradiction. There has been no desire to suppress heather-honey exhibits; there has been no withholding of prizes from heather-honey because it was heather; and *all* money prizes won have invariably been paid.

Two points are open to "D. M. M.'s" criticism. First, is it reasonable for a show committee to make and publish a rule limiting the awarding of second and lower prizes unless a certain minimum number of entries are made in the class? ("No second or lower prize shall be awarded if there are less than six entries."—Extract from the British Dairy Farmers' rules.)

Second, is it unreasonable to give judges the power to withhold prizes from unworthy exhibits? I submit that both these points are quite reasonable. The object of holding a show is to improve the quality of the things exhibited by means of comparison and competition. When the prizes in any class fail to draw sufficient entries the competition ceases and the object of the show is defeated; at last, for lack of support, the class is withdrawn altogether, as has happened with the heather-comb class at the Dairy Show. Who should feel aggrieved at this? Certainly not the Scotchmen who would not enter the lists. I have looked up the entries for the last six years in the heather-comb class; they are as under:

	Confectioners'.	Grocers'.	Dairy
1901	2	12	7
1902	4	12	8
1903	5	5	4
1904 ..	4	6	4
1905	3	15	no class
1906	5	12	„
Total entries	23	62	23
Prizes offered	24	24	8

Of these, the second prize was withheld in 1903 and 1904 at the Dairy Show owing to lack of entries. This, however, will in no way explain the sad lack of entries at the Confectioners' through the whole series of years. It is a very curious thing that these two shows—viz., the Grocers' and Confectioners'—under exactly the same managers and with an identical schedule of prizes, should differ so much in the number of entries.

In the same six years I find the names of only three Scotchmen among the prize-winners. In 1902 a first went to Dumfries; 1904, first to Glen Urquhart; 1906, a second to Inverness. The question is still to be answered—Why do the producers of fine Scotch heather-comb honey decline to compete at the London shows? Perhaps some one of them will favour us with a reply.—T. I. Weston, Hook, Winchfield, January 7.

LANCASHIRE B.K.A.

BARONESS BURDETT-COUTTS'S PRIZE HIVE COMPETITION.

[6574.] Referring to my letter to you of November 19 last, and subsequent paragraph (6516) in B.B.J. of November 22, some considerable difficulty has arisen as to the meaning of the words "cottage member." I should therefore be glad if you will make it known in the next issue of your valuable and much appreciated journal that the committee has decided that for the purposes of this competition the words mean "any member of this association whose house-rent does not exceed 6s. per week."

Thanking you in anticipation, and with best wishes for 1907 and onwards for both Editors and staff of both papers —James N. Bold, Hon. Sec., Lancs. B.K.A.

CLEANING UP WET COMBS.

[6575.] Referring to the letter of "W. H. S." (6565, page 4), I am obliged to your correspondent for his correction *re* the word "cannot" in fourth line, and will be glad to meet him half-way by substituting the words "will not." At the same time, it might be of interest to your readers if "W. H. S." would tell us how his bees were circumstanced for room and general conditions in connection with their storing honey in "the under-side of a comb laid horizontal." He also says: "Bees will, as a rule, not refuse to clean up extracted combs," &c. My experience tells me that they *will* refuse to do this. I have had combs left on in this way for ten days without being cleaned up, and that at a time when the bees were scarcely able to fly for cold. But when these combs were turned the other way up they were clean the next morning.

"W. H. S." also says: "It is both easier and more convenient to have wet comb cleaned up in supers." Yes, but I add it is easier to get foul brood through allowing our neighbours' bees to have free access to our comb than it is to get rid of the trouble of foul brood. I also believe in feeding my own bees only, to say nothing of the danger of "robbing" being started or a number of bees being thus taught the bad habit of robbing.

Perhaps your correspondent lays too much stress on the words "structural alterations." I do not mean that the comb is broken down close to the mid-rib; the bees do no more than pare them down about one-eighth to one-quarter of an inch. In this way the cells will have a downward incline, and then gradually turn upward. The "cappings" are afterwards usually uneven and of different sizes and shapes, so much so that it is possible that "L. S. C.," in his "Cappings of Comb," will be creating a laugh about them, as his racy remarks often do with myself.

While on this subject, I think your correspondent "D. M. M." once asked, Why not put the joint of sections down instead of up? I have found this a bad plan, as the tongue-and-groove union is the weakest spot, and the sections are apt to break open when taking them out of the hive. At the same time, I admit they look better in the shop if dealt with on the proposed plan. I intend next year to try the plan of lifting up the body-box about an inch by placing two strips of wood underneath it, thus allowing a bee-way between the outer wall and the brood-box of my "W.B.C." hives; by so doing the bees will have further to go, and thus be enticed to leave the comb. Besides, there will not be so much draught in the hive.—H. Potter, New Brompton, Kent.

NOTES FROM MIDLOTHIAN.

[6576.] It must be surprising to others besides myself how some B.J. readers got last year such large "takes" of honey from a single colony of bees as 198 lb. or more, while in my case the total harvest was only 100 lb. from seven stocks. Not only so, but one of these gave 45 lb. in sections of the total, leaving only 55 lb. from the other six. This is a poor locality for honey, and the heather season of 1906 proved a failure. Referring to the letter of your correspondent "Apis," which appears on page 464 of your issue for November 22 last, I would like to point out that the farmer has control over his cattle, and can select a proper mate for breeding purposes, but with the bee-keeper it is quite different. He cannot control the mating of his virgin queens, unless by helping matters, as Mr. Pratt, of America, does, by means of "hand-picked drones" (I don't envy him his job). Then, with regard to the same writer's description last year of the bees' "nuptial flight," I have known cases of queens failing to mate, with hundreds of drones on the wing at the time. Like other parts of the country, we have had a heavy snowfall, followed by keen frost; but our bees are taking no harm, while enjoying a well-earned repose. Wishing our Editors and readers a prosperous year in 1907.—A. Macintyre, East Calder, January 1.

MATERIAL FOR HIVE-MAKING.

CARBOLINIUM AS A PRESERVATIVE.

[6577.] I am sorry I cannot see eye to eye with "Little Western Apiary" (who writes in B.J. of December 20) over his statement regarding "carbolinium" as a wood-preservative, for after some fifteen years' practical experience of its use I don't think it is fit to be mentioned alongside "white-lead paint" for preserving wood from decay. The colour looks very nice as soon as done, but not for long, because the carbolinium, which is non-drying, retains all dust, &c., blown on to it. Not only so, but, I ask, what would ruffle the feelings of a bee-keeper more than to find that every time he manipulated the hives his hands would be covered with carbolinium, which latter is, to say the least, also not very pleasant to smell? The only purpose I can recommend its use for would be as a substitute for creosote where the timber is intended to be buried

in the ground. Perhaps some others of your correspondents have used it; if so, it would be of use and interest to have their experience. I enclose name for reference, and sign—CARBO, Cheshire. January 4.

CARBOLINIUM FOR HIVE-ROOFS.

[6578.] Referring to B.B.J. of December 20 (6554, page 506), your correspondent "Little Western Apiary" mentions carbolinium as a good thing wherewith to treat wood for its preservation. I have never to my recollection heard of this article before, or seen it advertised, but I should much like to know where it can be purchased. Probably others of your readers may be interested also. I have no wish to obtain a free advertisement for the proprietors of this paint, but, if in order, do you mind asking your correspondent to give the address of the firm who manufacture it? and oblige—H. WITT, South Ascot.

REPORT FROM THE ISLE OF MAN.

[6579.] Bees in this part of the country went into winter quarters well stocked with natural stores. Late-gathered honey was of splendid flavour, the fine weather during the time heather was in bloom accounting for this, and although the mountains are quite a few miles away bees visited them freely, securing a good crop of heather honey for their owners. More than the usual number of queens failed to mate this season from some unexplained cause, but in consequence many stocks had to be united. Wishing you, Messrs. Editors, and all bee-keepers a prosperous year.—T. HORSLEY, Douglas, January 1.

WEATHER REPORT.

WESTBOURNE, SUSSEX.
December, 1906.

Rainfall, 2·42in.
Heaviest fall, ·57 on 30th.
Rain fell on 18 days.
Below average, ·27in.
Sunshine, 61·6 hours.
Brightest days, 10th and 14th, 5·8 hours.
Sunless days, 12.
Above average, 3·5 hours.
Maximum temperature, 55° on 3rd and 4th.
Minimum temperature, 15° on 28th.
Minimum on grass, 12° on 28th.
Frosty nights, 19.
Mean maximum, 43·3.
Mean minimum, 32·5.
Mean temperature, 37·9.
Below average, ·4.
Maximum barometer, 30·63 on 20th.
Minimum barometer, 28·98 on 26th.

L. B. BIRKETT.

WEATHER REPORT
FOR THE YEAR 1906.
WESTBOURNE, SUSSEX.

Rainfall, 33·17in.
Heaviest fall, 2·07 on January 2.
Rain fell on 180 days (average 175).
Above average, 4·09 in.
Sunshine, 1,901·3 hours.
Brightest day, June 18, 14·4 hours.
Sunless days, 50 (average 62).
Above average, 68·3 hours.
Maximum temperature, 85° on September 1.
Minimum temperature, 15° on December 28.
Minimum on grass, 12° on December 28.
Frosty nights, 64 (average 74).
Mean temperature, 49·6.
Above average, 1·4.
Maximum barometer, 30·66 on January 23.
Minimum barometer, 28·96 on February 11.

L. B. BIRKETT.

A NOTABLE BEE CASE.

FROM OUR OWN CORRESPONDENT.

(Continued from page 3.)

Mr. J. Stubbs, Stafford, said he had kept bees since 1858. He considered the hives were in a proper position with respect to the plaintiff's house. He agreed entirely with Mr. Reid's evidence.

Mr. E. E. Crisp, who had been for twelve years secretary of the Staffordshire B.K.A., and had kept bees for 25 years, also considered that the hives were in a proper position, and agreed with Mr. Reid's evidence. A photograph was produced in order to show the height of a hedge on one side of the defendant's garden, which had since been cut.

In addressing the jury for the defendant, Mr. Maddocks stated that the legal definition of a nuisance was a substantial discomfort to a person in the enjoyment of his rights to such a degree that it would be detrimental to any person occupying the premises, irrespective of his position in life, age, and state of health. This was a case in which two neighbours had been quarrelling for some time, but nothing was said about bees until August, 1905. There was an absence of definiteness about the stinging, no note of the stings had been made, nor had the gardener or children alleged to have been stung been produced to give evidence.

The judge here suggested that the mother or nurse who put the blue-bag on might have been called.

Continuing, counsel pointed out that the plaintiff had proposed to raise the fence, but had not done so, showing that the nuisance could not have been considered serious. No one was stung in 1906. The doctor did not mention the number of bees. In the country bees must be accepted, and

the plaintiff had himself imported 600,000 bees. Mrs. Parkes, who was hypersensitive to bees, counted them. The window was open, sweets were on the table, with honey and pineapple, the plaintiffs knowing all the time that these were an attraction to bees. With all this inducement only eighteen bees came in, nobody was stung, but the bees were killed.

The judge suggested that defendant should counterclaim for the loss of the bees.

Mr. Maddocks said that he might have claimed in respect of the depletion of defendant's hives by these unauthorised murders, but he knew that Mr. Young would then raise the question of the identity of the bees. All the experts except Mr. Davenport agreed as to turning round the hives. Any nuisance to Mr. Parkes would be even more so to the defendant. The bees had been there for seven years, and the former tenant had said they were not a nuisance. He submitted that Mrs. Parkes's holiday had been taken on account of her health, and not on account of the bees. There was no evidence that the bees were negligently kept or that they were savage. Therefore the question at issue was whether they were kept in a proper place. Evidence of high experts proved that the place was a proper one. According to Mr. Franklin, the plaintiff proposed to put two hives near his own house. The action had been brought on account of the unneighbourly feeling between the parties; there was no evidence of real nuisance.

Mr. Young, for the plaintiff, said that all that was sought for by this injunction was that the defendant should move his hives to a proper distance. For two years his client had endeavoured to get this done; but without success. Several witnesses had proved that the bees were almost constantly in the house, while the other experts had only been able to say what the bees would probably do on leaving their hives. He put it that it was a matter of common-sense that bees would be likely to come from the immediate neighbourhood. The dread of being stung was almost as bad as the sting itself. With regard to the defendant's evidence as to the absence of a nuisance people would sometimes put up with it themselves. He gave as instances gramophones, pet dogs, and babies. No one disputes that the ordinary habit of bees is to fly straight away from the hive; but it had been shown that bees would scent sweets at considerable distances, and the contention was that these bees, kept in such numbers and so near to the house, constituted a considerable nuisance and were a serious cause of inconvenience and trouble to his client.

In directing the jury his lordship said that the case was an interesting one, but had taken a long time. He hoped to sum it up briefly. Mr. Parkes complains that his neighbour keeps bees so as to be a nuisance. The best definition of a nuisance was that it was some disagreeable thing which was more than fanciful, more than of mere delicacy or fastidiousness. It must be a material interfering with the ordinary comfort of human existence, not according to an elegant or dainty spirit, but according to the plain spirit and simple notion among English people. It would not include a person of specially delicate health or living in a way out of the ordinary. He could conceive of such an action being brought, but he had only heard of one, in Ireland. That was dismissed on grounds which differed from those in this case. A small fraction of the total number of bees might have come into the house. One or two stings in a year would not constitute a nuisance; but several stings might, if ordinary precautions were used. Plaintiff said he had taken sixteen bees in a week, and had to keep his windows shut in 1905. In 1906 there were no stings; the greenhouse that had been erected had apparently afforded protection. The plaintiff himself kept bees 200 yards away. His lordship, after referring to other points in the evidence, told the jury that if those hives, kept as they were and in such numbers, were likely to prove next summer such a nuisance as would materially interfere with the ordinary comforts of human existence according to the plain, sober, simple notions of English people living in a sensible manner, and, without putting extravagant restrictions on the ways of life of the Parkes, that the Parkes would find their house in August next untenable, then they would find for the plaintiff. But if they thought as much had been made of the bee nuisance as possible, considering the other strained relations between the parties, if Mr. Reynolds could go on as well as possible in his house nearer the bees, that Mr. and Mrs. Parkes should be able to go on as well with some simple precaution, such as putting up a gauze net, or not putting tempting things on the table in the one critical month of the year; by dealing with bees as they would deal with wasps if they had a plague of these in their neighbourhood, then they would find for the defendant.

The jury consulted for a few minutes, and found for the plaintiff. They added a rider that the hives should be removed 200 yards from the plaintiff's house. His lordship said he could not accept the rider, as the defendant was entitled to keep his bees in his garden or anywhere he chose, provided he did not cause a nuisance in doing so. His

lordship granted an injunction of the usual kind to restrain defendant from keeping his bees so that they would be a nuisance to the plaintiff. The question was subsequently argued between counsel whether a bee was entitled to his first sting, and his lordship held that if there had been only one sting, even if it had been deadly, there would have been no ground of action. The jury, however, had found that there had been a nuisance, and he had to grant an injunction or make a declaration. There was no other course open to him on the jury's finding.

We have reported this case at length because of its extreme importance to bee-keepers. The verdict was clearly given on the whole of the evidence, not on the question of the bees alone, and perhaps the chief moral to be drawn from it is one that applies to other things besides bees—namely, keep on good terms with your neighbours—if you can. Every question of nuisance must necessarily depend upon the facts in each individual case. So far as the law was explained by Mr. Justice Phillimore, his remarks were very favourable to bee-keepers, who will be glad to have the dictum of so great an authority, especially on the liability as to a single sting.

Queries and Replies.

[3454.] *Keeping Bees in Suburban Gardens.*—May I ask for a line of reply to the following queries?—1. Will it be reasonably safe for me to keep bees in a small suburban garden? The size of the garden is, roughly, 18ft. wide by 60ft. long, a 5ft. close oak paling dividing mine from adjoining gardens, the tenants of which are friendly and do not object to my proposal. We are about 200 yards (over neighbours' gardens) from unlimited open country and Epping Forest. Halfway down the garden is a large summer-house across garden, and the hives (with path between) would stand back on to this. I enclose rough plan, with position of house starred. 2. I purpose having two hives (which I have already made from old cases). Would it do to have them under a plain roof, as there is no shady tree to place them under? 3. What would be the best time to start in the spring, and how should I acquire the bees? Should I buy swarms or stocks?

I am studying the "Guide Book," which is very lucid and interesting. I have no idea of making a profit out of bees, but rather want a good practical knowledge for future use on a larger scale with more room. I am taking in the B.B.J., and forwarding to my sister, who keeps several hives at Iddlesham (Chichester), and is too far away to get bees from. I shall be extremely obliged for information on these points, and hope to join the fraternity of bee-keepers. Name sent for reference.—G. C., Chingford, Essex.

Reply.—1. The position shown in sketch is very suitable if the line of flight faces S. or S.E., as the bees would have over 30 yards across open space. With ordinary care it would be quite safe to keep a couple of stocks where shown. 2. It is advantageous to have the hives under a shed or in a bee-house when neighbours' gardens are so close together as yours, because when manipulating the hives under cover it reduces the chances of stinging outside. 3. If you can buy a couple of strong, healthy stocks in March your chance of profit the first year will no doubt be increased, if judicious steps are taken to prevent swarming. It might be worth your while to join the Essex B.K.A., when the expert would call on you when on tour in the spring.

[3455.] *Travelling Crates for Sections.*—I want to make some spring travelling crates for sections, and therefore ask: 1. Is it best to have one box to fit in another, with spring at bottom, or would a false bottom do equally well? 2. Where can I obtain springs, and what is about the price? 3. What is meant by "glazing" sections? Does it mean buying sections and cases for them? If so, it is rather expensive, as I paid 1s. 3d. per dozen for some. I have usually had all my troubles answered by seeing replies to queries put by others, but have not seen anything about the method of packing sections for sending by rail. Thanking you in anticipation for reply, I send name for reference.—Tiverton, Devon.

Reply.—1. The spring crate illustrated on page 87 of "Guide Book" exactly shows how the five ordinary spiral springs are fixed to top and bottom of the crate, with straps at lower corners to keep the loose bottom within bounds. The cut, Fig. 67, explains itself. 2. Most ironmongers would supply the springs. 3. "Glazing" sections means fixing a square of glass on both sides by means of strips of lace-paper. See Mr. Woodley's advt. in every issue of the B.B.J., with prices of lace-paper for glazing sections.

PRESS CUTTING.

HONEY CURE FOR INFLUENZA.

I am pleased to see the return to old-fashioned remedies, even by medical men. One of these has been greatly worried by measels, followed by severe chest complications, invading his district. He has been recommending hot cider heavily sweetened with honey, and the result has been beneficial in the extreme. Since then there has been a veritable run on honey and cider for influenza, and the local bee-keepers' stocks of honey have been very appreciably diminished. Some customers have had to seek town supplies, but some of the latter has been found to contain a large amount of glucose, and this has not been followed with such beneficial results. It is known that honey is a very rich, warmth-producing food, and this fact is doubtless the true reason of the beneficial results obtained.

If spurious honey is being put on the market, is it not about time that the various bee-keepers' associations should take action and originate a prosecution, or induce the inspectors under the Health Acts to take samples?—*Rural World.*

SPECIAL NOTICE TO READERS.

In explanation of the fact that the first number of the B.B.J. for 1907 appeared with an entirely new face and in new type, we add a line, first, to express our regret that the change of printers caused some unavoidable delay in getting last week's issue out; and, second, to assure readers that our new arrangements will result in the paper reaching its destination—by post or otherwise—on Thursday in each week.

We are also sorry that through an unfortunate oversight—caused by the hurry of making up for lost time last week—the obituary notice of the Baroness Burdett-Coutts became mixed up with editorial matter dealing with an entirely different subject, and the "slip" was not discovered till a good number of copies had been distributed—by post and otherwise—beyond recall.

The mistake to which we refer is in not dividing the fourth paragraph on first page from the short editorial which follows on the subject of our new volume. Readers who bind their B.B.J., or keep the journal for reference, can have a corrected copy on sending a postcard to 8, Henrietta Street, Covent Garden, W.C.

Notices to Correspondents & Inquirers.

F. ANDREWS (Norfolk).—*Pollen-clogged Combs.*—There is no disease in comb sent. The cells are simply clogged with pollen; but, being very old and black, the comb needs renewing badly.

R. MILLER (Bridge of Allan).—*Candy-making.*—Sample will do very well if used while fresh-made, but after the moisture has dried out it will become too hard for the bees' use. This is owing to its not being boiled quite long enough.

M. KELLETT (N. Wales).—*Wax Moth in Combs.*—1. If badly infested there is no means of freeing them from wax moth, and they are only fit for burning or melting down for wax, according to present condition. Sulphur fumes will kill the larvæ. 2. If the two stocks of bees have a moderate supply of stores on hand, the cakes of candy given will tide them over till syrup is given in spring.

*** *Some Queries and Replies, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

NEW FOREST HEATHER HONEY.—To Let, unfurnished, no taxes, a five-roomed Picturesque Cottage, with two acres of land, and farm buildings, high and dry, 350ft. above sea, in centre of the New Forest, surrounded by miles of heather. No other apiary within one mile. Letter of introduction required. Rent, £30.—Apply, MAJOR R. W. HEATHCOTE, Catalpa, Northlands-road, Southampton. v 26

SUPERIOR LIGHT HONEY, in tins, 6d. lb.—W. H. LEY, Easton, Stamford. v 34

HIGH-CLASS BARRED ROCKS, 12 hens, 3s.; 2 cocks, 5s.; 4 White Wyandotte cocks, 5s. each.—HARRIS, Wavendon, Woburn Sands, Bucks. u 89

FOR SALE, Pure Light-coloured Extracted Honey, excellent quality, 56s. per cwt.; 14s. per 28 lb. tin; sample, 3d.—E. WILKINSON, Longparish, Whitchurch, Hants. v 33

SPLENDID WHITE CLOVER HONEY, on rail, 6d. lb., 28 lb. tins free.—O. KNIGHT, Epney, Stonehouse, Glos. v 32

WARRANTED PURE ENGLISH HONEY, mainly Sainfoin, in glass jars or in 14 lb. tins.—Apply for quotations, stating quantity required, to J. HOWLAND, Brampton, Huntingdon. v 31

BLACK LEGHORN UTILITY COCKEREL, 10 months, splendid laying strain, Hunter's direct, 5s., packed.—ALSFORD, Bee Expert, The Bungalow, Haydon, Sherborne. v 30

FOR SALE, Pure English Honey, light colour. Sample, 3d.—LAW, The Cuckoo, Ashwell, Herts. v 29

DEVON HONEY.—8 doz. 1 lb. jars, Clover and Heather Blend, 1 doz. 8s. 6d. doz.; 3 doz., 8s., f.o.r.—F. NORMAN, Stoodleigh, Devon. v 28

WANTED, GOOD EXTRACTED HONEY, in exchange for Edison Gem Phonograph and Brice's Observatory Hive, as new—BONTOFT, The Apiary, Caterham Valley. v 27

TO CLEAR, at Special Prices, 7 doz. first quality Sections, mostly glazed, 56s. the lot; ½ cwt. Extracted, in 28 lb. tins, 24s.—SOAL, "Reliable" Bee Farm, Rochford, Essex. v 25

Editorial, Notices, &c.

DEVON BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The ninth annual meeting of the above association was held on January 11 in the Guildhall, Exeter, under the chairmanship of Colonel Walker. Amongst others present were Messrs. Parrish, Smith, Furse, Squire, and Burgess. The report showed a membership of 337, against 330 in 1905, and the accounts a balance credit of £13 8s. 7d., no assistance being given by the County Council. A most successful honey-show was held in August last at Exeter, the number of entries being 151.

Sir Thomas Dyke Acland, Bart., was re-elected President; Miss Pittis and Mr. Robert Furse, Woodbury, were elected hon. treasurer and hon. secretary respectively. It was unanimously decided that the *Bee-keepers' Record* should be supplied to members as formerly. The Chairman referred in sympathetic terms to the great loss sustained by British bee-keepers in the lamented death of the Baroness Burdett-Coutts, for so many years President of the parent Association.

A vote of thanks to the Mayor of Exeter for the use of the Guildhall closed the proceedings.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of December, 1906, was £787.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

TOTAL HONEY IMPORTS

FOR THE YEAR 1906.

		£
January ...	value	1,532
February	,, ...	2,692
March ...	,, ...	3,106
April ...	,, ...	2,965
May ...	,, ...	6,028
June ...	,, ...	5.213
July ...	,, ...	3,821
August ...	,, ...	2,106
September	,, ...	1,112
October ...	,, ...	3,215
November	,, ...	1,320
December	,, ...	787
	Total	33,897

The total value of imports for the year 1905 was £34,763.

BREEDING BEES BY SELECTION

FOR IMPROVING THE HONEY-PRODUCING CHARACTER IN GREAT BRITAIN.

By F. W. L. Sladen, F.E.S.

It is a fact well known to breeders of animals that to obtain and maintain permanent improvement in any character it is necessary to breed strictly by selection from *both* parents in *successive* generations. Such breeding by selection has in many cases resulted in great improvements and in the production of many new varieties. Domestic poultry are a familiar example. In the case of bees selection of the male parents has hitherto been practically impossible, at least in this country, in all parts of which ordinary bees are to be found, because pairing takes place upon the wing some distance from the hives, and we cannot prevent some of our queens from pairing with drones from neighbouring apiaries.

In my early efforts to improve the honey-producing character of my bees I found no great difficulty in selecting the best honey-producing colonies, and breeding from them in successive generations on the female side; but on the male side I had to content myself with rearing each season a large number of drones of best honey-producing parentage and grandparentage,* and eliminating as nearly as possible all drones of other parentage. By this means a considerable number of unions between queens and drones of best honey-producing parentage were effected, but I found very great difficulty in identifying the offspring of these unions, so that in breeding the next generation it was impossible in every case to tell whether outside blood had been included or not, and thus much of the improvement that had been effected was liable to be lost.

In 1905, however, the great difficulty in identifying the offspring of the unions between queens and drones of my best honey-producing parentage was practically overcome by the employment of a method of selection by colour. This method was outlined in a paper read before the British Bee-keepers' Association on March 22, 1906, and reported in the BRITISH BEE JOURNAL, vol. XXXIV., page 132. The object of the present paper is to explain more fully this method of selection by colour for the improvement of the honey-producing character.

The common bee of this country, as everybody knows, has the ground colour of the body entirely black. In 1901 and 1902 I crossed my bees with selected individuals of one of the best honey-producing strains of the American Golden Italian bee, in which a considerable portion of the abdomen is of a bright golden-yellow

* See paragraph on parthenogenesis at end of this paper.

colour. The result in the second and third generations of the cross-breds was that the queens were exceedingly prolific (in spring), and the bees very vigorous, but in almost every other character these cross-breds were extremely variable. Taking the two characters of colour and honey-production, I got—

1. Dark-coloured bees that were poor honey-producers;

2. Dark-coloured bees that were good honey-producers;

3. Bright-coloured bees that were poor honey-producers; and

4. Bright-coloured bees that were good honey-producers,

as well as bees that were intermediate between these varieties. The best colonies of good honey-producers produced larger amounts of honey than colonies of ordinary English bees, a fact which I attributed partly to the greater prolificness of the queens, partly to increased vigour, and partly to slight augmentation of the good honey-producing character due to cross-breeding. Some of the best honey-producing colonies were of the brightest colour. It was therefore clear that there was little or no correlation between the colour character and the honey-producing character—in other words, that the two characters were inherited independently.

My next step was to eliminate all the bright-coloured bees except those that were best honey-producers, and to rear queens and drones from the latter only, and these in the largest possible numbers. Thus the only drones of bright-coloured parentage that paired with the queens reared were of best honey-producing parentage. These drones considerably brightened the colour of their young, and thus it became possible to distinguish, by the brighter colour of their young, the queens that had been fertilised by drones of my best honey-producing parentage from those that had been fertilised by drones of variable honey-producing parentage and by drones from neighbouring apiaries, all of which produced darker young. This distinction could be made as soon as the first few hundred workers had hatched—namely, in less than a month after the queen was fertilised.

This method of selection by colour for the improvement of the honey-producing character was also employed and rendered more precise during the season of 1906.

The laws governing the inheritance of characters in cross-bred plants and animals have always been a puzzle to breeders. Lately, however, they have been carefully studied and much elucidated by Bateson and others by means of elaborate breeding experiments. An excellent account of some of these experiments, with the conclusions they point to, is given in a Report to the Royal Society by Professor Bateson and Miss E. R. Saunders, published in 1902. This important work confirms a remarkable law which was first discovered and enunciated by Mendel as long ago as 1865, as the result of experiments he made in cross-breeding varieties of the garden pea. Mendel's discovery is too lengthy to be given here, but the essential part of it is "the evidence that the germ cells or gametes produced by cross-bred organisms may in respect of given characters be of the pure parental types, and consequently incapable of transmitting the opposite character; that when such pure similar gametes of opposite sexes are united together in fertilisation, the individuals so formed and their posterity are free from all taint of the cross." (From Bateson and Saunders's Report, page 12.)

For instance, in the second and later generations of cross-breds between hoary-leaved and glabrous-leaved varieties of the garden stock, Miss Saunders obtained certain numbers of hoary-leaved individuals which, when bred together, were found to be incapable of producing glabrous-leaved individuals, and nearly all the glabrous-leaved individuals that were obtained, when bred together, were found to be incapable of producing hoary-leaved individuals. Atropa (the Deadly Nightshade) was also found by Miss Saunders to obey Mendel's Law in the inheritance of yellow-coloured and black-coloured fruits. Professor Bateson found that poultry obeyed Mendel's Law in the inheritance of "single" combs and "rose" combs, and in that of "single" combs and "pea" combs. More recently Hurst has found that poultry obey Mendel's Law in the inheritance of many other pairs of opposite characters. In their Report Bateson and Saunders give a long list of pairs of characters in animals and plants that had, up to 1902, been observed to obey Mendel's Law: one of the most remarkable of these is the waltzing habit and the absence of the waltzing habit in mice.

Bateson and Saunders's work, which only became known to me in the winter of 1905-6, is likely to be a great help in the work of endeavouring, in my cross-bred bees, to obtain individuals with the bright-colour character and best honey-producing character that are incapable of transmitting any mixture of the opposite dark-colour and poor honey-producing characters to their young. In the case of the bright-colour character it is likely that this object has already been attained in some examples. The best honey-producing character is a complex one, and there are indications that it is largely the result of the combination of several characters, and that some of these are more or less cor-

related to one another, and that others, like vigour, are the direct result of cross-breeding. The best honey-producing character is partly dependent on longevity (of workers), prolificness in late spring (which acts favourably), prolificness at other seasons of the year (which may act unfavourably), and on other characters. It is impossible to forecast how much improvement in the honey-producing character will be obtained when, by cross-breeding and selection, its component parts have to some extent been separated and re-united in new combinations.

The honey-producing character of a certain race or variety of bee may certainly vary very much in different climates. In the climate of some parts of the United States the honey-producing character of the Italian bee is exceedingly good, but in the climate of Great Britain, which during the honey-flow is much colder, more cloudy, and more windy than that of the United States, the Italian bee is not a good honey-producer, and the English bee is a better one. This shows that breeding for the improvement of the honey-producing character in Britain must be carried on in the British or in a similar climate; also that the English bee is a better bee to work upon than the Italian. Crossing the English bee with sufficient Italian blood to enable one to brighten the colour for practising selection by colour improves it for the purpose of breeding for the improvement of the honey-producing character, because it gives it increased prolificness in spring, vigour, and variability.

In the second and third generations of my cross-breds it was a common thing to find a queen that would produce some individuals (workers and queens) that were quite dark, and others that were as extensively bright-coloured as, or even more so than, individuals of the original American Golden Italian strain. Of course these bright individuals had no more of the American Golden Italian blood in them than the dark individuals. It is therefore plain that it is impossible to judge the amount of foreign blood in cross-breds by the extent of the bright colour they show, especially in the case of individuals that are the result of selection by colour.

Although the bees now bred by colour-selection in Ripple Court Apiary differ entirely in nature from any foreign bees, yet in appearance they closely resemble American Golden Italian bees: the queens are superficially indistinguishable from imported American Golden Italian queens, and in many colonies the workers can only be told from American Golden Italian workers by their much more active running over the combs when the hive is opened, and by their generally more distended bodies and sometimes larger size.

To distinguish the brightly-coloured bees bred in Ripple Court Apiary for the improvement of the honey-producing character, the name of "British Golden" has been given to them. This name was first applied to the 1906 selections.

As regards the results of the breeding by colour-selection in Ripple Court Apiary, it is too early to say much. The honey-producing results of the 1906 selections will not be known until the summer of 1907, so the results of only one season's work, that of 1905, have so far been obtained. These were very satisfactory, and it has become evident that selection by colour has already changed the bees from variable cross-breds into a distinct variety with many characters that are fast becoming fairly constant; at the same time a great improvement in the temper has been noticed.

There is a difficulty in the transmission of worker characters through drones besides that of selecting the drones. I refer to the difficulty—by no means great or insurmountable—that results from the theory that the drone is produced parthenogenetically. The workers of a colony inherit their characters through the drone that fertilised the queen of the colony, as well as through the queen herself, but the drones that are produced in the same colony by the same queen inherit their characters through the queen only. The said workers therefore, having a mixture of fresh blood, give a very unreliable indication of the worker characters the drones will transmit to their offspring, and in order to find out what worker characters the drones are likely to transmit we must go back to the colony that produced their mother. In the case of a fixed race or variety, the workers of the colony that produced the drones' mother show fairly accurately the characters that the drones are likely to transmit, but in the case of variable cross-breds, they are not likely to do so on account of variation. In the latter case, if a large number of sister queens are employed to produce drones, the drones may be expected, *on the average*, to transmit the characters exhibited by the colony that produced the drones' mothers, but drones produced by individual queens might sometimes transmit different or opposite characters: the workers produced by these individual queens would give some indication as to whether they would be likely to do so or not. Therefore in breeding drones it may be well to state, on the assumption that the drone is always produced parthenogenetically, that the characters shown by the grand-parental colony are always of great importance, and that those shown by the parental colony are of some importance in cross-breds, but of very little importance in pure-breds.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the Literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*THE EDITORS *of the 'British Bee Journal,' 8, Henrietta-street, Covent Garden, London, W.C." All business communications relating to advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 8, Henrietta-street, Covent Garden, London, W.C."*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[6580.] The past week of mild weather has given our bees a chance of taking a cleansing flight, and a few have been on the wing on several occasions, but on Sunday, the 13th, my home-apiary was one merry hum, tens of thousands of bees disporting in the warm sunshine. It was a genuine consolation to find every single colony was taking a part in the evident enjoyable "outing."

Prices of Honey.—I notice the editor of *Gleanings* has been labouring, by excerpts from vol. xxxiv. of the B.B.J., to convince Dr. Miller that his assertion in an editorial note in a previous number of *Gleanings*, in which it is stated that English comb-honey sells at 48 cents per 1-lb. section, is correct. I contend that this quotation is entirely wrong, and gives an erroneous impression to our "wide-awake" cousins in the U.S.A.—an impression that is more than likely, ere long, to attract to our markets the large output of honey from Cuba. The plain truth of the matter is that the few parcels of English and Scotch honey which change hands wholesale at anything over 1s. (24 cents) per lb. are few and far between, either sections or in jars. The bulk of our English honey of good quality ranges in price from 6d. to 7½d. per lb. (12 to 15 cents) in bulk, and in sections from 6d. to 10d. (12 to 20 cents) each. Large orders generally have to be sent carriage paid, and also with sections glazed or in glazed cartons for nearly all parcels priced at over £4 4s. per gross. The price at which honey in sections of good quality sells retail in London is easily proved by the prices marked on them in the shop windows. These range from 9d. (18 cents) in cutting grocery concerns to 1s. (24 cents) each in first-class dairy establishments; ½-lb. screw-cap jars are on sale at dairies, price 6d., and 1-lb. jars at 9d. to 1s., according to qualities.

Carbolineum.—To those of our craft (and friend Witt in particular) who contemplate using carbolineum as a preservative to hive-roofs, I would repeat the advice of Mr. Punch to those about to marry: *Don't!* It is but a few numbers back in the B.B.J. that one of our experienced judges of honey was giving a caution against the too free use of carbolised cloths when removing surplus honey, and I feel sure that if the use of an occasional whiff of carbolic can do harm it is certain that honey gathered and stored perhaps for months in hives painted with odorous carbolineum must be contaminated. It is about certain that there is no better preservative than painting well with good lead paint. I have hives in use, and in good order now, so painted which were made in 1880.

Hand-Picked Drones.—The so-called new method of hand-picking drones for queen fertilisation may look smart in print, but I should like to ask who did the "hand-picking" a few decades back, when bee-keepers produced as large and weighty supers as are seen to-day. For myself, I attach far less value to the golden colour of the abdomen in the bees bred by "faddists" for beauty than I do to the energy displayed by the bee in the gathering in of the honey-crop.

The joints of sections are invariably put on the under-side every time in my own apiaries in the production of comb-honey, and with properly constructed racks, giving room for a "follower," we never have spoilt sections from attachments at the under-side to the slots of racks. Neither do we have brace-comb between top-bars and bottom of sections. This plan has been followed ever since the one-piece section came into use.—W. WOODLEY, Beedon, Newbury.

(*Correspondence continued on page 26.*)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

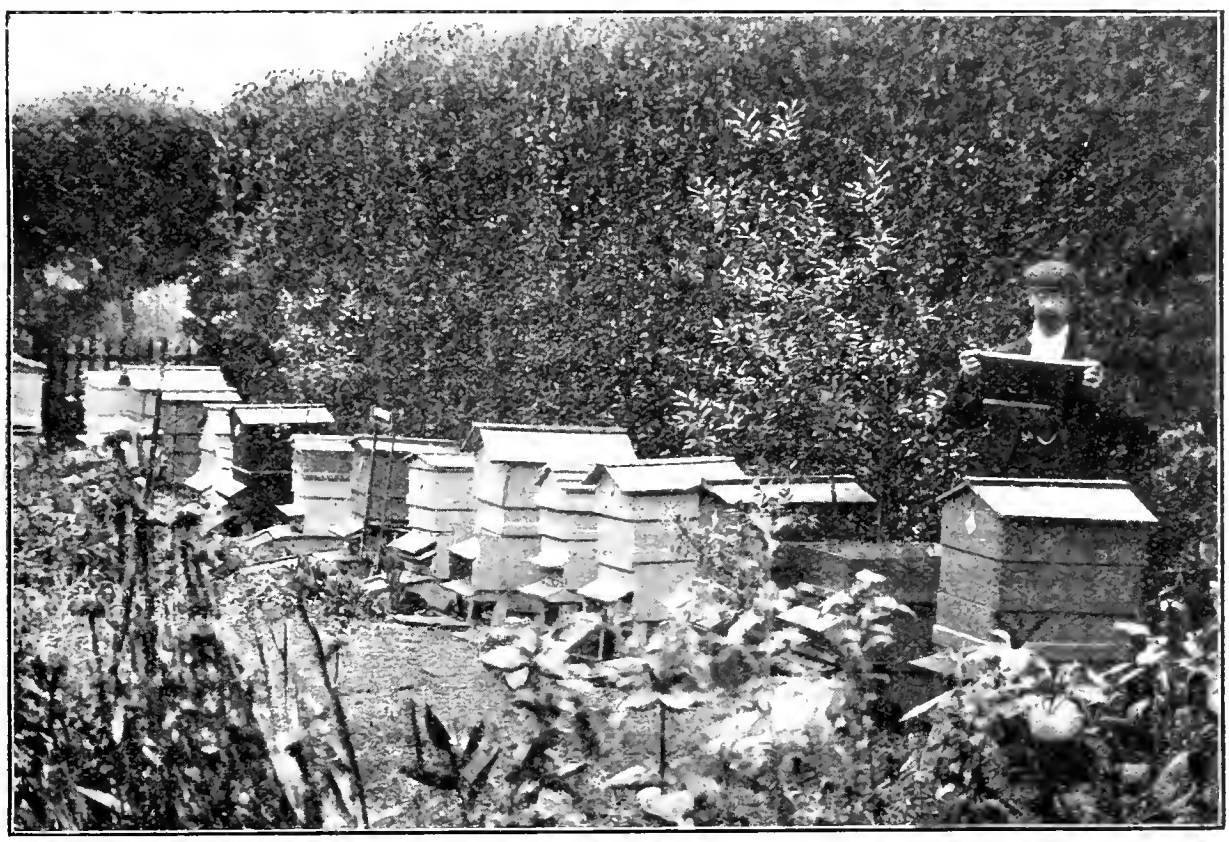
It will doubtless come as a surprise to many readers to find that in a part of the Midlands familiarly known as the Black Country—by reason of its being fuller of blast furnaces than meadows and odorous bee-flowers—may be seen the bee-garden illustrated on next page, and that its owner is able to send us the following "notes" regarding the labours of his bees and his own success in honey-production. He says:—

"I cannot lay claim to any hereditary proclivities for bee-keeping, for, although my father kept some hives, he only began about six months after I left home, and was residing thirty miles away.

"My first actual experience with bees was in 1892, when, as a journeyman gardener, I was changing situations, and on my way from Plymouth to Burton I halted at home for two days. It was early in

June, and the weather very hot at the time, so that with seventeen stocks hard at work in the garden there were the usual din and the expectations of swarming, which soon culminated in one hive sending out a big swarm, and another —not due for a day or two—coming off in sympathy. As my father was away from home I was hurried off to fetch the 'handy man' of the village to hive the bees, and, of course, I must don the extra veil, and lend a hand in giving help (by looking on). However, the hiving was a failure, as soon after he departed I found the skep empty, and the bees clustered on a currant tree near by. Being fond of experiment-

my father kept bees, and had some difficulty in disposing of the honey, so I used to do my best to aid him in marketing his crop. When I came to Wolverhampton and began to sell I found there was a demand for comb-honey, so I determined to keep some bees and supply that myself. I began in September, 1903, with one stock and a copy of the 'Guide Book' for instruction (both presents), to which was added a second stock in March, 1904, and from the two I made an artificial swarm, so that I had three stocks to work the first year. The produce was carefully graded, and I found a ready sale for it. Since then I have bought skeps and trans-



MR. J. DAWSON'S APIARY, ROOKERY LANE, WOLVERHAMPTON.

ing, I decided to tackle the job myself this time, so, after moistening the inside of the skep with sweetened beer, I cut off the currant twig on which the swarm clustered and got the latter hived. All went well until I discovered one bee had got under my veil, and was calmly flying about my face inside. This was too much for me, so I went for the intruder and squashed it, but in doing this the bee showed fight and 'went' for me, with the result that when I reached my new situation I looked more like a prize-fighter than a gardener.

"I must class myself as a juvenile member of the craft, having only kept bees three years. As previously stated,

ferred them to frame-hives, and I also got driven bees until my stock has grown as seen in the picture. The apiary has a south aspect, and the holly hedge at the rear of the hives forms a good screen to ward off the north and east winds, especially in spring, when the bees are working on the salix planted between the hives. I have tried my hand at hive-making, the third in the row being a home product. The object seen next to hive No. 7 is a home-made comb-rack and super-stand. I have not hoped for or expected any great 'takes' of honey, such as are often reported in the B.B.J., being located just on the edge of the Black Country, which, of course, limits the foraging of the bees. There are

also six more bee-keepers within a radius of three hundred yards. One of my best investments was a 3s. 6d. lot of driven bees bought in the autumn of 1905, which wintered well, and yielded me 40 sections last year. As a business advertisement I have exhibited at local shows (some open competitions), and have succeeded in heading the list. Not having any friend to instruct me in bee-management, I have relied solely on the 'Guide Book' and the B.B.J., which I have taken regularly, and from the knowledge gleaned in this way have been able to help other bee-keeping friends. In closing I may say the competition in honey-selling in this town is very keen, samples being sent to retailers from Yorks, Lincs, Essex, and other counties, and offered at prices which I think would shock some B.B.J. readers, and leave little margin to the producer. I close by wishing a successful season in 1907 to all."

(*Correspondence continued from page 24.*)

PRACTICAL NEW ZEALAND.

[6581.] A copy of "An Act to Encourage and Protect the Bee Industry of New Zealand" — short title, "The Apiaries Act, 1906"—lies before me; in other words, the Foul Brood Bill the framing of which I was able to announce in the B.B.J. of September 7, 1905. The Act, which became law in October last, though rigorous, is framed with judgment. Government inspectors are appointed who have the right to enter any premises where bees are kept, and give such directions for remedial treatment or the destruction of diseased stocks as they may deem necessary, or for the transfer of colonies from unsuitable dwellings to modern hives. Not only is the bee-keeper bound under penalties to give notice of disease, but, as in the U.S. of America, he must bear the burden of any loss that may arise from compulsory destruction. There is no mention of compensation. Indeed, as far as I have been able to ascertain, it is only in our own country that sentiment is allowed to obscure the plain duty of a citizen to keep his belongings healthy and void of danger or offence to the community. The maximum penalty for an offence under the Act is £10. It seems hardly judicious to allow notice of disease to be given verbally to any inspector of stock, but slips of this kind, due doubtless to unfamiliarity with the subject, can easily be remedied as the Act comes into operation.

Happily the New Zealand Department of Agriculture does not confine its operations to the mere repression of disease. During the past year the Government bee-expert, Mr. I. Hopkins, has made extensive tours throughout the bee-keeping districts, and is now in charge of a well-equipped apiary, which is one of the most popular features of the great exhibition that has been for some months in existence at Christchurch. In a picturesque "grass garden," amongst groups of shrubs, are to be seen fifty full-sized "Langstroth" hives and thirty nuclei of various descriptions, with the best-known varieties of bees, including the much-belauded American strain of Caucasians. There is also a large outdoor observatory hive. Old-time skeps find a corner, their inhabitants working merrily in blissful ignorance of the disparaging notice, "This is not the way to keep bees!" An extracting room, a storage room with arrangements for disinfection of combs, ripening tanks, and other appliances, all are there in practical use on full-sized bee-farm scale. Lectures and instruction are frequently offered, and a "cadet class" for both sexes has been formed for the six months during which the exhibition will remain open. Finally, the whole plant will be removed to the State Farm at Levin, where the second State Apiary is to be established. May the neglected bee-keepers of the Old Country not be permitted a slight feeling of envy in offering sincere congratulations to their Colonial cousins?

Those on this side of the water who were so kind as to assist me in getting together a representative collection of honeys for the N.Z. Agricultural Department will be interested to learn that the nine samples I was able to send are staged, duly labelled, with about seventy others from various countries. The collection is the centre of interest, rising even, as I am informed, to enthusiasm when some burly North-countryman—and there is many a Scot in New Zealand—his eye lighting on a certain label, is taken back with a rush to the purple-clad moors where long ago the bonnie bee hummed blithely o'er the heather.—H. J. O. WALKER (Lieut.-Colonel), Budleigh Salterton.

SUCCESS IN SELLING HONEY.

HOW TO FIND A MARKET.

[6582.] In response to the request of "D. M. M., Banff," in the B.B.J. of December 20 (page 508), that some of those who can manage to dispose of their honey would state their methods for the benefit of others, I am glad to send you my report for the past four years, and to say I can sell all my produce. First, I make it a rule to sell only good honey, keeping any of inferior quality for home use or for feeding back to bees. Next, I pay attention to neatness and cleanliness in preparing it for the market, labelling the glass jars with a neat label, on which my name and address appear, so that customers may

have no trouble in getting more if needed. I also grade my sections into first and second qualities; any not up to these two standards are kept and sold at a lower price locally. Next, I pay particular attention to packing carefully for travelling, and, thanks to the hints in the B.B.J. by Mr. W. Woodley and others, I have been able to send honey all over England, and it has arrived safe, and repeat orders follow, in addition to recommendations to others (the best advertisement). By following these methods I have always been able to sell out early in the season. My success is due to a careful observance of the above rules, which have enabled me to increase my stocks, as I find a ready sale for my honey, not, as some do, by keeping bees to produce a lot of honey they have no chance of selling owing to its poor quality. I started in 1902 with a swarm, and now have seventeen stocks, all in the well-known "W.B.C." hives.

I will now give my sales for the last four years:—1903, sections 21, extracted honey 68lb.; 1904, sections 38, extracted honey 205lb.; 1905, sections 159, extracted honey 595lb.; 1906, sections 524, extracted honey 1,515 lb. This last-named season's crop is all sold. I do a little advertising, but not much, this year's cost being about 10s., but, as already said, I rely mainly on old customers and their recommendations. It will be seen that in 1904 and 1905 I trebled my sales of previous year, and in the past season of 1906 I nearly did the same over my sales in 1905. I have no doubt of being able to double my sales this year, and at prices satisfactory to myself. I should advise beginners, when developing their plans of bee-keeping, to make a point of ascertaining whether there is most demand for sections or for extracted honey in their district, and produce accordingly. Hoping my experience may be of use to others, I send name for reference. —J. B., Salisbury.

THE B.B.K.A. LIBRARY.

[6583.] In the obituary notice of the late Baroness Burdett-Coutts in your columns this week the following sentence appears:—"Her ladyship also helped in acquiring for the Association the library collected by Mr. Desborough, which formed the nucleus of the present library." Now, as the B.B.K.A. is about to issue its annual report, might I suggest that in addition to the information headed "Finance," "Apiary and Expert," "Exhibitions," "Examinations," "Insurance," &c., another heading, *i.e.*, "Library," be added, under which particulars might be given as to where the library is situated; the number and titles of the books it contains; whether or not these would be lent to members of the B.B.K.A., &c., &c.?

There are a large number of members of the B.B.K.A. whose visits are few and far between to the metropolis, and I dare say there are many, like myself, who have never had the pleasure of seeing the library, and would be glad to have the opportunity of getting the loan of some of the books for perusal.

If the library is only open to the visits of the members of the Council at their monthly meetings, I am afraid Mr. Young's office as librarian is almost a sinecure.

I do think that some small benefit at least might accrue to the parent Association if a little more publicity was given to this branch of its work amongst the members of the B.B.K.A. at least. Perhaps our Editors will be kind enough to "touch the button" to let in a little light on this question, as other friends appear to have been doing on the question of "heather exhibits" lately.—H. Samways, Maesybont, Llandebie, January 11.

[We gladly "touch the button," as our correspondent desires, by explaining that the B.B.K.A. library (located at the office, 12, Hanover Square, London) is available to members during office hours. Those living at a distance can have the books on loan for perusal by payment of postage. We may further add that during the time the late John Huckle was secretary the library was located at the B.B.J. office, 17, King William Street, but on Mr. Edwin H. Young being appointed as Mr. Huckle's successor, the library was removed to Hanover Square, to the general advantage of all concerned.—Eds.]

EXPERTS' CERTIFICATES.

INSURANCE POLICIES.

[6584.] In reference to Mr. Crawshaw's "Cappings of Comb" (page 8), and his allusion to myself, it may be well to say that I never for a moment seriously expected an honorary degree to be conferred on me. What my notes in your issue of December 13 meant to convey was that there may be some bee-keepers who, although they have not sat for the B.B.K.A. examination, are just as competent as third-class experts, and therefore quite justified in not letting these latter inspect their hives. Far from discouraging those who would be professional experts from sitting for these examinations, I would like to see the B.B.K.A. insisting on the second-class certificate for County and District Association experts. There has been no severance on my part from any association, except from the Bishop's Stortford and District B.K.A., of which I ceased to be hon. secretary because of the accident I sustained some fifteen months ago, and gave up membership because the association paid the expert so much per hive for inspecting same, and my hives being

numerous, my membership resulted in a loss to its funds through the hives being charged for whether examined or not. What has become of the bee-keepers' insurance scheme?—H. NEWMAN, M.A., Teynham, Kent.

[The insurance scheme of the B.B.K.A. will be in operation as heretofore so soon as the new arrangement regarding dating of policies comes into force, as it will do shortly.—EDS.]

CARBOLINEUM FOR HIVE-ROOFS.

[6585.] I take the opportunity of assuring your correspondent H. Witt (6578, page 17) that carbolineum is an undoubted wood-preserver. Its use, however, on bee-hives is a controversial matter, in view of the fact that it is a deadly enemy to all insect life, and horses will not gnaw wood treated with it. I for one should pause before using it for the purpose under discussion; but for the benefit of those who would like to give their bees a dose and note results, I may say it can be supplied through most London stores at 1s. 4d. per quart or 4s. 1d. per gallon. The makers are Messrs. C. A. Peters, Ltd., Derby, and 68, Queen Street, Cheapside, E.C.—W. R. A., South Norwood.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

The Late Baroness Burdett-Coutts.—It is possible that no one but those who have come into actual contact with the many and varied interests of this wonderful woman can appreciate the loss our world has sustained by her death. Not alone is the loss that of her generous instincts, but also of her personality, and her ever active and intelligent sympathy in its projects. The work of the world must ever go forward, but the world is the better for having known her, and she has helped its work. Hers was a labour of love, and she has earned her rest. May she ever "rest in peace."

The New Volume (page 1).—It is impossible to prevent a slight feeling of sadness at the thought of another year gone, with its losses and its failures; but hope is planted eternally in the human breast, and the season of spring is at hand. The B.B.J. is almost entitled to be classed as a hardy perennial, and its first shoots show undiminished vigour. Let us hope that the human bees may continue to visit its flowers and cut its leaves, so that it may continue to bring forth fruit and contribute to their need.

Cleaning Up Wet Combs (page 4).—It is certainly true that honey can be stored by the bees in inverted cells. It is, however, doubtful if nectar is placed in such a position, and it would be worth while to make an observatory hive with horizontal combs to solve such points. The larvæ of wasps have no difficulty in maintaining their position on the ceiling, and the bee-grubs could no doubt be taught the trick. They would at least have the advantage of learning their acrobatics when young.

Useful Points (page 6).—To saw squarely, either a frame-jig or a perfect square and some little practice are necessary; but if $\frac{1}{8}$in. be left for the plane this should correct matters. If in addition $\frac{1}{8}$in. be left on the width of the boards, the boxes may be perfected after assembling by planing the "proud" corners. There is an astonishing amount of satisfaction in good work done by oneself.

Complaints about Bees (page 7).—"Sir! The innate selfishness of some people is beyond belief. My neighbour insists upon keeping bees in spite of my protest. Recently I was standing immediately in front of one of his hives, and by a pure accident kicked the affair, when a bee savagely and viciously attacked me, and I was seriously stung, sir! Yet he refuses to have them destroyed! Sir, I consider his action is a menace to the safety of the community, and I appeal to all right-thinking readers of your columns to subscribe to a National Neighbourly Defence Fund with which I may invoke the aid of the law and teach him a lesson of brotherly love."

Scouting Bees (page 10).—This is, I believe, the true explanation of the bees' knowledge of supplies. It is, I think, proved that such scouts are more abundant in the morning than later in the day. Some time ago I contributed some verses to the B.B.J. which embodied this theory.

A Bee Mile (page 14).—Haven't you rather stretched this distance into two surface miles, friend "D. M. M."? This would be equivalent to descending and ascending a valley having sides at the angle of 60deg. with the horizontal! Isn't that rather *steep?*

A Brain Map (page 9).—There is a good deal of delightful poetical licence in this article. My own bees have, however, advanced a step further than those of the writer, and have copies of the local survey and a floral calendar hanging in the hives! The map is marked out into districts in neat hexagons of wax! It is, perhaps, not very surprising that we do not know offhand so well as the bee where each flower is to be found; but if our staple diet were nectar we should have learnt long ago, just as if we lived on bulbs we might have developed a nose as

keen as that of the vole and as long as that of the elephant!

Waspishness (page 15).—Why should this accusation carry so much more sting with it than "beeishness"? After all, the wasp always has the good taste to withdraw when satisfied, and I am not at all sure that the active intelligence of the bee is not inferior to that of the wasp. I was interested to find by experiment upon my arm that the sting of a wasp is sufficiently barbed to sometimes cause rupture of the attachments.

A Notable Bee Case (page 17).—Is not this an astonishing case? And the plaintiff a bee-keeper, too! The very lucid summing-up of the learned judge will bear re-perusal, and in a free country one may have one's own interpretation of his view. But there is no doubt that it was the defendant's bees which caused all the trouble, and probably they were trained by him to annoy his neighbour and steal his jam! Very likely they stored it in the defendant's jam-pots! But *what* was in the jam to cause the bees to reel about the floor and generally behave in such unruly fashion? Can it be possible that they had got "the pip"?

Queries and Replies.

[3456.] *Utilising Partly Filled Store-Combs.*—I have bought, at a sale, some bee-hives, in one brood-chamber of which the combs are full of honey; also there is another one, which has been "robbed out," so there is only pollen in some of the cells, which latter are all covered with a white mildewy substance, but apart from this the combs are perfectly clean, with no sign of foul brood. I therefore ask:—1. Can I clean these combs in any way so as to use them again? 2. If I extract the honey from the full combs first mentioned I should not be able to get them cleaned up, so had I better keep them until they can be given to the bees, or will it affect the honey in any way being kept so long in the comb? 3. Is there any fear of the honey granulating so that it could not be extracted if I wished to do so? Or would it be best to extract the honey at once and melt up the combs, if it is not advisable to put them away with the honey all about them? I want to save the combs if possible, as I am short of them. 4. I have some thin syrup left over from feeding last autumn. Will this food be fit to use in the coming spring? It is kept in a corked jar. 5. After uniting some driven bees last autumn and feeding up for winter I took away some brood-frames in which the bees had stored some syrup, but only partly sealed it over. I had no extractor at the time, so put the frames away as they were. Can I give them to the bees again in the spring, or what would you advise?—Tamar Valley, Stonehenge.

Reply.—1. If not badly mildewed and the pollen is not hard, and consequently unfit for use, the combs may be given to bees after syringing with soluble phenyle, as per recipe No. 8 in "Guide Book." 2. Yes. 3. We should leave the honey in combs as it is, if still in liquid condition, and give the frames to swarms when using the hives in the coming summer, or they may be given to stocks short of food in early spring. 4. If warmed up and the scum removed when required for use, it will be quite good as food. 5. Yes, they may be used as required.

[3457.] *Moving Bees by Rail.*—1. I have to move some bees in frame-hives about fifty miles by rail next spring, and shall probably be unable to do so in March, which I suppose would be the best time. I therefore ask: How early or how late might I do so without ill-effects? 2. Can I insure against risk of injury caused by escaping bees in transit?—X. L.

Reply.—1. The hives, if properly packed, may be moved on any cold day for the next couple of months. It would be far better and safer to move them before March than later on. 2. No. Besides, there should be no danger to third persons if the bees are securely packed, and no company would undertake insurance against careless packing.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

W. R. (Lincs.).—*The "Notable Bee Case."*—The conclusion you draw from the imperfect—and sometimes nonsensical—reports in the daily Press of the case referred to is an entirely erroneous one, as you will readily see on perusal of the full and correct report of the trial in our pages. By promptly moving your bees on receipt of the threatening letter quoted, which we cannot help regarding as a bit of "bluff," you have made yourself safe. But by reading our concluding remarks on page 19 you will see how little analogy there is between the facts you state and those commented on by the judge in the case tried at Birmingham. Your neighbour

will find that bee-keepers have their rights as well as needlessly alarmed neighbours.

G. H. (Basingstoke).—*Lantern - Slides and Starting Bee-Clubs.*—For information regarding the slides referred to, application must be made to Mr. E. H. Young, secretary B.B.K.A., 12, Hanover Square, London. No doubt the use of slides and a good lecturer will greatly assist in the formation of a bee-club for your district, and as a "certificated expert of thirty-three years' experience, now owning twenty-three colonies," your personal help would be invaluable in furthering the object in view. Anything of use and interest to readers you may send for publication will be welcomed.

G. THOMAS (Pembroke).—*Carbolineum.*—The information you seek for, along with other matter pertinent to the subject, will be found in this issue (page 28).

S. Y. J. (Stafford).—*Care of Store-Combs.*—There is no danger from partly filled store-combs (put away for future use) being now found "badly weeping" so long as the honey remains liquid. It will be of advantage to keep them in a warm, dry place, as exposed honey attracts moisture, just as salt does if kept in a damp store-room. The combs will be all right for spring feeding when the bees are able to make frequent flights.

J. P. (Derby).—*Bonâ-fide Cottagers.*—This question is a somewhat difficult one to deal with, and the Lancashire B.K.A. committee have adopted the wisest course in taking into account the local conditions of the county, as stated on page 15. If the conditions differ in Derbyshire, no doubt the D.B.K.A. would make suitable arrangements for defining the status of *bonâ-fide* cottagers.

A. H. (Wavendon).—*Varying Methods and Opinions on Bee-Management.*—It is hardly worth while occupying space with contentious matter which does no more than prove that opinions differ even between experienced practical bee-men, whose methods are at variance. Holding these views, we deem it best to dispense with comparisons, and let each reader—after hearing both sides—judge for himself whose advice he will follow. The best will always come to the top, no matter whose views are offered for the acceptance of readers by our contributors. Assertion and counter-assertion cannot go on for ever.

Honey Samples.

W. M. (Dorset).—Your sample is of good quality as a heather-blend honey, and should find favour on the market if labelled as such. With regard to your bee-garden photo, the tone-block is already engraved from it, and will appear in due course in our "Homes of the Honey-Bee," along with many others we have been favoured with.

"MURCHWOOD" (Southampton).—There is no reason whatever for your customer returning honey as "not being good because it will not set." The sample is gathered mainly from heather (*Erica cinerea*); but there is a sufficient admixture from other sources to keep it rather thin and retard granulation, since it was gathered in 1905. The "sugary granules" seen are simply signs of incipient granulation, and have nothing whatever to do with "mixing with sugar" or adulteration. It is a nice heather-blend honey.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

TO LET, UNFURNISHED, a Four-roomed Bungalow, with one acre grass land, with fowl-house, in Hampshire, suitable for Bee, Poultry, and Pig keeping. Rent, £12; no rates.—F. COLMAN, 24, Hudson Buildings, Preston Road, Poplar. v 52

SAINFOIN HONEY, Extracted and Sections. Sample extracted, 3d.—WOODHAM, Clavering, Newport, Essex. v 46

48 SECTIONS, mostly Heather, 50 lb., light extracted, to clear. What offers?—MISS POLLARD, Haynford, Norwich. v 36

TWO CERTIFICATED EXPERTS Wanted for six weeks' tour in Spring, Cyclists. State terms and references.—SECRETARY, Cheshire Association, Rossett Vicarage, Wrexham. v 35

BEE FOOD, SEEDS.—Chapman Honey Plant, Limnanthes, Bokhara Clover, each 6d. per packet, 1s. 4d. 3, carriage paid; splendid bee forage.—BAYLEY, Fair View Apiary, Selbridge, Hythe, Kent. v 37

FOR SALE, about 100 lb. Honey, 5d. per lb.—S. NUNN, The Gardens, Fowlmere, Cambs. v 50

FOR SALE, a "New Departure" Bee Hive, being a Swarm Catcher and Detention Hive, produced by extending the sides of body and lift, which latter carries roof of catcher and prevents draught. Price 20s. Sketch or photo. sent.—J. WAYMAN, Cottenham, Cambridge. v 38

BEAUTIFUL LIGHT CLOVER HONEY, excellent flavour, in bulk, 6d. per lb.; screw cap jars, 8s. 6d. doz.; sample, 3d.—BATEMAN, How Side, Ennerdale, Cleator. v 53

BUFF ORPINGTON COCKEREL, fine bird, April hatched, 5s. 6d. Approval.—EDGAR C. WAREING, Staverton, Daventry. v 39

HONEY.—A few dozen first quality sections and 1 lb. screw cap jars for sale, 8s. a dozen.—WENT, Riverside, St. Osyth, Colchester. v 40

BEES.—Eight Stocks for Sale, cheap. — COLLINGS, 19, Crescent Road, Bromley, Kent. v 41

HONEY.—3 cwt. light colour, mainly Sainfoin, at 50s. cwt.; in 14 lb. tins.—A. GARDNER, Methwold, Norfolk. v 42

FOR SALE, PURE CLOVER HONEY, in tie-over jars, 7s. 6d. per doz.; 28 lb. tins, 7d. per lb.; 4 dozen sections, 8s. per doz.—J. T. DIXON, Kelsick, Wigton, Cumberland. v 43

LIGHT and MEDIUM HONEY, in 28 lb. tins, 6d. per lb.—MAYER, Hemblington, Norwich. v 45

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held on Thursday, January 17, at 105, Jermyn Street, S.W., Mr. T. W. Cowan in the chair. There were also present Miss Gayton, Messrs. R. T. Andrews, Thos. Bevan, W. Broughton Carr, J. B. Lamb, E. D. Till, T. I. Weston, and Ernest Walker.

On taking the chair, Mr. Cowan alluded in feeling terms to the loss sustained by the death of the President, the Baroness Burdett-Coutts, who had occupied that position, to the great advantage of the bee-keeping industry, for nearly thirty years. In continuing, the Chairman said:—Immediately on seeing the announcement of her death he at once wrote on behalf of the Council to Mr. Burdett-Coutts, expressing deep sorrow at the loss that gentleman, as well as themselves, had sustained, and he also arranged for a wreath to be sent as a small mark of respect. He received an acknowledgment from Mr. Burdett-Coutts, who kindly placed at the disposal of the Association tickets for its representatives on the occasion of the memorial service at Westminster Abbey, Mr. W. Broughton Carr and Mr. Walter F. Reid attending on behalf of the Association. In conclusion, Mr. Cowan moved the following resolution:—"That the Council of this Association desire to place on record their sense of the irreparable loss they have sustained in the death of their revered President, to whose continual practical interest and generous liberality they have been indebted for so many years past; and to convey the same to Mr. W. Burdett-Coutts, together with their sympathy with him in his loss."

The resolution was seconded by Mr. Weston and adopted.

Letters regretting absence were received from Mr. W. H. Harris, Mr. W. F. Reid, and Dr. Elliot.

The Finance Committee's report was presented by Mr. T. I. Weston, together with a list of cheques recommended for payment, and the same were passed.

The Council next proceeded to consider the nomination of a President in succession to the late Baroness. Various names were suggested, and the final selection was adjourned until the next meeting.

Nominations were made of judges and steward of hives, honey, &c., at the "Royal" Show at Lincoln next June, after which the conditions of the next insurance policy, for the period from March 25, 1907, to March 25, 1908, were revised and adopted.

The annual report of Mr. W. Herrod, the Association's expert, on his work for the year 1906, was next read. He stated that the interest of the students at Swanley continues to grow, the number presenting themselves considerably exceeding that of the previous year. The season's produce for 1906 from the apiary was found to be quite unsaleable, owing to honey-dew. With regard to foul brood, he had to report a clean bill of health in all three apiaries. One stock was affected by the disease known as black brood, which, however, yielded very readily to a treatment of naphthaline and re-queening. Among the items of practical work the method of working sections with a bottom as well as a top starter had been tried, but with no better results than, if as good as, have been obtained in the older and more simple way. He had also tried a number of different kinds of dividers, but found nothing to surpass those commonly in use. Mr. Herrod added that he was badly in want of proper skep-stands, and of cone-shaped zinc skep-covers. If some generous person could be prevailed upon to make a present of these it would greatly facilitate his work in the preservation of the skeps used for the examination of candidates, and also for demonstration purposes. The usual course of lectures had been given during the season at Swanley; a visit was paid to the Lady Warwick College at Studley; and lectures were given at the Royal Agricultural Show, Derby, the Bath and West of England Show, also at Gainsborough for the Lincs. B.K.A., at Hampton and Enfield for the Middlesex B.K.A., at Brentwood for the Essex B.K.A., and at Bedford for His Grace the Duke of Bedford. A course of lectures was also given at the Agricultural Institute, Ridgmont, Beds. In addition, he rendered assistance at the "Dairy Show," the Confectioners' Exhibition, and the Grocers' Exhibition.

Mr. Ernest Walker gave a brief report upon the examination he had made of diseased bees received through the Board of Agriculture, and of the remedial measures recommended. Correspondence on some other matters was laid before the Council, and dealt with. The next meeting of the Council will be held on Thursday, February 21.

DERBYSHIRE B.K.A.

ANNUAL MEETING.

The twenty-sixth annual general meeting of the above Association was held at the Victoria Café, Derby, on Saturday, January 12. Mr. R. Giles was in the chair, and amongst those present were the Hon. F. Strutt, J.P., Messrs. J. Bakewell, S. Durose, H. Smith, W. Henson, J. Rowland, J. Sowter, M. M. Bennett, D. Wilson, J. Pearman, G. T.

Pallett, W. Allen, G. Walden, C. Clarke, J. Winson, T. M. Bryan, E. J. Swain, C. J. Else, R. Moncrieff, T. Austin, J. E. Amatt, G. Hartley, G. Smith, T. Richards, A. Ancote, G. Haywood, T. Beadman, G. Richards, Geo. Hayes (Notts), P. Scattergood (Notts), J. S. Simnett, and the secretary. There were also a few ladies and friends of members present.

The Chairman, in opening the proceedings, in feeling terms referred to the loss sustained by the Association in the death of their late beloved and respected chairman, Mr. Barber, who for twenty years had presided at their meetings, and he wished to move the following resolution:—"That this meeting of the Derbyshire Bee-keepers' Association wishes to express its deep sorrow in the great loss sustained by the death of its highly-esteemed chairman, Mr. J. L. P. Barber, J.P., and desires to place on record its sense of the invaluable service he so constantly and generously gave for the benefit of this Association." The Hon. F. Strutt seconded, and the resolution was carried in silence, all present standing. The minutes of the previous general meeting were then read and adopted.

The Secretary read his report and statement of accounts, which showed a further increase of the balance in hand, from £26 9s. 1d. at end of 1905 to £43 12s. 7d. at the close of 1906.

The Chairman, in moving the adoption of the report and statement of accounts, congratulated Mr. Coltman on the result of his work. The Secretary reported the success of the following members in gaining the third-class certificates of the B.B.K.A., viz., Messrs. James Bakewell, W. H. Bird, G. L. Bakewell, W. Henson, and R. Moncrieff. The expert's reports showed that during the spring tour 288 bee-keepers were visited, owning 1,151 frame-hives and 96 skeps; of these 39 stocks were found diseased.

A vote of thanks was accorded to the County Council for their grant of £50 towards the expense of lectures in various centres, circulating suitable literature, and for expert work in the county, the balance of expenditure being borne by the Association.

The following addition to the rules of the Association was unanimously adopted:—"That any member who, in the opinion of the Committee, is found guilty of any discreditable action in connection with the D.B.K.A. may be expelled from the Association." The following officers were then re-elected:—His Grace the Duke of Devonshire, President, together with the whole of the Vice-Presidents, as were also the following executive officers:—Mr. R. Giles, Chairman; Mr. G. T. Pallett, Vice-Chairman; Mr. Pallett and the Secretary delegates to meetings of the B.B.K.A.: the Hon. F. Strutt, J.P., Hon. Treasurer; Messrs. Jones and Powlson, Hon. Auditors; Mr. R. H. Coltman, Secretary. The lecture report and balance-sheet were adopted.

After a vote of thanks to the Chairman the company partook of refreshments, at the conclusion of which a conversazione was held. During the remainder of the proceedings a hive, presented by the late Baroness Burdett-Coutts, was competed for by cottager members in a class for honey produced by their own bees, Mr. A. Ancote being the winner. Some fourteen other prizes, consisting of books useful to bee-keepers, were drawn for by members present.

Mr. P. Scattergood then read a paper on "Beeswax and Its Adulterants." Mr. Scattergood also gave a capital lecture on bees, the lantern being ably managed by Mr. J. S. Simnett, Burton.—R. H. Coltman, Secretary.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

AMONG THE BEES.

SUPPRESSING HEATHER HONEY EXHIBITS.

[6586.] The first paragraph of Mr. Weston's letter on page 15 alone concerns me. His illogical logic sounds strange. I criticise a *system* (nothing personal), and seek to show that it has shortcomings, whereupon he leaps a chasm and asserts I make "accusations of dishonourable conduct." This is a perversion of terms. If I had thought there was even the semblance or tincture of anything dishonourable I would not have touched the subject even with the end of the humblest of kitchen utensils. No! I have not the least doubt Mr. Weston is an honourable man. "So are they all, all honourable men." And yet I fear they are killing Cæsar.

Notwithstanding Mr. Weston's "flat contradiction," I again, even to the danger of being accused of "blessed" iteration, for the third time repeat my criticism—"charges," if you like.

First, the suppression of heather honey

exhibits is a living reality. The figures supplied even by my opponent prove this up to the hilt.

Second, the cause, I maintain, is to be found in the withholding of prizes. This has been done consistently for years, and I have already supplied proofs from reports of shows. So has he.

Third (and worst!), I will let Mr. Weston's own words condemn him here. He defined a "well-filled class as twelve entries." Let him turn to the last "Grocers'" (page 382, vol. xxxiv.), and he will find this entry for heather honey in comb rewarded with only three prizes. Judged even by his own rigorous standard, a fourth prize should have been *paid*.

If I am wrong on any of these points, when my error is proved I will own to it.

Judging Heather Honey.—This is a subject on which I have been long intending to write. The standard set is too high in my judgment, and not exactly on correct lines. What would suit clover honey does not on all points rigidly apply to heather honey in sections. The judge should remember he is not judging comb-honey collected, built up, and finished off in the full height of the season, but, on the contrary, in general completed under trying, variable, and often adverse circumstances. The weather is often broken and unsettled, the days varying in temperature, and the nights frequently, even after a fine warm day, chill, and consequently unsuitable for the highest work. Therefore the evenness, flatness, uniformity, and smoothness of capping and sealing all round close to the wood cannot be rigidly demanded. Pop-holes will be found more common: a fining down of the comb at corners, a break or want of continuity in the sealing, and a want of that "flat as a board" surface are all a direct consequence of the variability of temperature generally found even in the most favourable heather seasons. Intermittent flows have a baneful effect and hinder perfect work. The above admitted—and I think there can be no question of its accuracy—you can at once appreciate the force of my contention that a standard suited to earlier finished sections should not be applied on hard-and-fast lines to honey finished under a different set of circumstances.

Right here is where the Southern beekeeper is likely to score. His earlier supplies of *heath* flowers, with the resultant better weather, enable him to stage sections of higher finish, which at once catch the eye of the judge, who gives them at the first glance a front seat. If he, like Mr. White (remember, I am bringing no "railing accusation"; he is quite entitled to his own opinion), prefers a mild-flavoured sample when the honey is tasted, notwithstanding lack of consistency, true flavour, colour, and aroma, they may get first place. With another class of judge, whose mental horizon is so narrow and parochial that he has doubts of the very existence of "prime Scotch," Northmen would not have the ghost of a chance. Mr. Carr's sensible remarks at the Conversazione testify that he is not in this category, and Colonel Walker has a thorough appreciation of the points constituting the best samples of pure heather. I do not name these gentlemen to make invidious distinctions, but simply because their opinions are known to me.

Paucity of Heather Exhibits.—Again, when I hear it said that heather honey exhibits are too few (I fully admit they are), I would ask cavillers to remember that ten may work for heather to a thousand working for clover, &c. Consequently, an entry of ten or twelve heather exhibits may make a very good representation, compared with forty or fifty clover entries. This fact is important and should not be forgotten. Yet another feature worth considering is the fact that Scotch heather-men have practically sold out their produce, even in average seasons, before they have taken their surplus from the hives. Most have standing orders up to an average season's produce, so there is small inducement to exhibit.

Once more, it must be remembered that very few indeed possess more than a limited number of hives. Comparing a man with an apiary of, say, ten colonies, and one with a hundred, what chance has the former to carry off prizes? I am not certain, indeed, but it would be better to reduce the number of sections from a dozen to half a dozen to secure fuller entries, but I don't know.

Over and above all these reasons there towers high as an Eiffel or a Babel the question of withholding prizes. Scotchmen get the credit of possessing an average amount of common sense, and they reason it out thus: "I incur considerable expense and risk sending sections some 600 miles. Even if they deserve a place in the first four I have no assurance that they will be so placed as prize-takers, not from any inherent defect in my sections, but from the simple fact that there is an absurd rule which says that, because some other man I never heard of fails to make an exhibit, the third and fourth prizes, although offered, will be withheld. Therefore, as to exhibiting, *Cui bono?*" And his reasoning would be perfectly correct. Try this, gentlemen, please! Let it be known that, say for two years, you will pay *all* prizes offered, and I am confident you will have exhibits so full that even your own present rules can be applied.

Bees "Reeling."—Old Maxwell turned

enthusiastic over the merry revels bees indulged in about midwinter. For well-nigh a fortnight since the departure of the great storm bees here have been having high junkets almost daily, weather being quite spring-like for mildness. Evidence of a re-sorting of stores is patent at every hive, and every colony appears to be not only alive but extra lively.

Sugar for Feeding.—After making considerable inquiry, I find that the sugar question is more complex than it appears. Grocers simply pass on the guarantee they themselves obtain, so that it becomes largely a question of faith in some other person. Mr. Reid was correct in his statement at the Conversazione *re* "refined" beet and cane sugar.—D. M. M., Banff.

ODDS AND ENDS ABOUT BEES.

SOME NOTES ON QUEEN-MATING.

[6587.] The mating of young queens in large nuclei, or stocks, cannot be held under such close observation as in small hives. Therefore, until last season, I knew practically nothing of many interesting points that must be familiar to all observant queen-raisers. And, being desirous of learning all I could on the subject, I may say that curiosity, coupled with some feverish anxiety for success, induced me to examine my little mating-boxes at regular intervals after being stocked. In three or four days the queen was generally to be found on the third front frame; but on the fifth or sixth day and onwards she was invariably found on the second frame, which latter was found to be carefully prepared for breeding by the workers. Stores of honey and pollen were arranged round the top and corners, leaving the centre clean and empty. Previous to being mated, the young queens were perfect "She-Mercuries" in their movements during observations. After mating a more matronly gait was, however, adopted by the young queen, and a marked distension of the abdomen was noticeable, but the behaviour of the workers was chiefly remarkable for their great desire to hide her from all observation. When there happened to be a day suitable for mating it was a matter of much interest to observe that the queens were politely invited by the bees to "go forth"; indeed, in some instances they were literally pushed off the flight-board. The "home-coming" of the absent queen was apparently awaited by the workers with an anxiety that seemed to find a parallel only in some ducal return from the honeymoon. The general joy at the outgoing of the royal virgin on her marital flight soon gave place to an expectant calmness worthy of a philosopher who views an impending crisis of his affairs with stoical indifference. I have seen three variations of the issue:—(*a*) If the young queen returned ready to fulfil her maternal duties, her arrival on the flight-board was the signal for a buzz of excitement that seemed to give relief to the pent-up feelings of the watchers, who soon re-enter the hive, when the taste of industry begins. (*b*) If the queen returned unmated she did so timidly, as if afraid to enter the hive. She would dart here and there eager to escape the searching attentions of her future colony, some members of which would resolutely bar her way and seek to drive her off again. At last she would alight at some unguarded spot and make her way within to await some more favourable opportunity. (*c*) I have seen a promising young queen come forth and take flight, effulgent in the light of youth, with no hesitancy in her movements, and after making a few majestic circles in the air around her little homestead vanish in the azure blue of heaven. The same general joy was there, followed by the confident calm, but as the minutes passed quickly away, and there was no sign of the absent one's return, a kind of subdued alarm was distinctly noticeable. The panic that ensued was plainly accompanied by the most frantic expressions of woe as a determined search was made around the front of the hive.

Nature is said to repair her ravages, but not all. In this case the sequel can only be contemplated as a lingering death without hope or joy.—D. V., Dunaskin, N.B.

CLEANING UP WET COMBS.

[6588.] I gladly respond to the request of Mr. H. Potter in B.B.J. for January 10 (6575, page 16) as to how my bees were circumstanced for room, &c., that they stored in "the under-side of combs laid horizontal," &c. First let me say the bees referred to as doing this were not mine. My own bees store their surplus in combs hung in supers placed on the hives in the orthodox way; but two others as well as myself can vouch for the fact of the storing as stated having been seen. A small comb containing eggs was suspended between others for the purpose of queen-rearing. The stock was very strong in bees for the size of hive, and was fed liberally. On some other occasions these horizontal combs were almost filled on the under-side with syrup-food, and in some cases I believe the cells were extended.

When a novice transfers combs from skeps to frames they are often placed the wrong way up, and I think if they were required for honey the bees could, and would, store therein without making any

(*Continued on page* 36.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

In view of the somewhat uneasy feeling prevalent among our readers whose bees are located near dwelling-houses (caused, no doubt, by the "Bee-case" recently reported), we gladly illustrate below a little bee-garden, which forms part of Mr. Harper's apiary, wherein the hives are seen close up to his house. When this arrangement can be carried out with no disadvantage, it should remove any apprehension with regard to over-nervous neighbours being stung by bees near dwellings, if the hives are properly managed. Mr. Harper's interesting "notes" need no addition from us. He says:—

"I commenced bee-keeping in 1882, but before then had the great advantage of serving a sort of apprenticeship with friends who keep bees, one of whom was a really good bee-master. I live in the town (which is only a small one), and, as may be judged from photo, have not much room in my little back garden, but I manage to spare sufficient space for the hives shown. As will be seen, they stand close up against the house, and the walk, up and down which I and others pass and on which the children often play, is only between three and four yards distant from the hive fronts; yet we never get stung. I may say that the walk is slightly lower than the hives; but it seems as if the bees get used to us.

"I have a dozen hives in all, the other eight being located on an allotment garden a mile away; yet have never lost a swarm; in fact, I have only had swarms there on two odd years in over twenty. This non-swarming has been brought about simply by giving the bees sufficient room, my hives all being large ones on the 'combination' principle, with frames hanging parallel to the entrance, and I work almost entirely for extracted honey.

"This is not a district in which 'big takes' are obtained, therefore if my average surplus reaches 30 lb. per hive I am satisfied, but I don't consider that much less than this weight of surplus will pay for the trouble. My bees have very careful attention, and the hives are kept in good order, all combs being renewed regularly, part of them every year. I have only had two years in twenty-three in which my average reached 60 lb.

"I always keep a 'Bee Book,' in which is kept an account of income and expenditure. In doing this I sometimes find the expenditure has exceeded the income, but not often. I may say that, if there was no profit at all, I should always keep a few bees, on the same principle

MR. THOMAS HARPER'S APIARY, UTTOXETER, STAFFORDSHIRE.

that some people keep a dog, *i.e.*, because I like them.

"I obtained a third-class expert's certificate in 1896, and I assist quite a number of people with their bees; or in some cases manage them at a small charge.

"I sometimes feel almost envious in reading of the 'big honey yields' of various districts reported in your pages, and even wonder in my own mind if it is possible they can be true, for we have nothing like it here; but I suppose we have much to be thankful for, inasmuch as the district is free from that pest to bee-keepers—foul brood."

("*Cleaning up Wet Combs*," *continued from page 34.*)

"structural alterations," &c. Of course, if they were extended, the cells drawn out would curve upward in the usual way. This must be the "structural alterations" our friend's bees have made. If, therefore, Mr. Potter will agree to add the word "always" after the words "will not," making his original letter read, "Therefore they will not always store honey in them without first making structural alterations," we may be said to agree on the question he has raised.

Regarding his second paragraph (page 16), it only needs a reference to my letter on page 4 in order to show that in speaking of combs being cleaned up in supers I clearly meant over the brood-nest. Only as a last resort would I put them in an otherwise empty hive to be "robbed out," and then it will never fail.

Should any of your readers decide to adopt the plan of inverting combs for cleaning up this year, I will suggest an improvement, by way of balancing each separately over quilts, and that is to put the wet combs in supers; make a light frame of anything handy, and fasten this on the top, either with a couple of "Van Deusen" hive-clamps or by some other easy method, when they will be able to invert a super full of combs for cleaning out.

A Curious Swarming Incident.—Early in June last year one of my stocks swarmed. On examination of the combs in brood-nest before hiving the swarm on the old stand, I found a virgin queen already hatched. The other queen-cells I cut out, and the young queens in two of them hatched in my pocket within half an hour of the hive having swarmed. The weather had been favourable for swarming for more than a week. The queen accompanying the swarm was fertile, for eggs and young brood were to be run in the combs. I think this must be rather uncommon, as I have never known bees to defer swarming for so long a time with the weather quite favourable for swarms coming off.—W. H. S., Mapperley, Notts.

SOME HAMPSHIRE BEE-NOTES.

[6589.] I thought it might interest some B.B.J. readers to read a few notes about my bees and their doings in this part of Hants during the past year of 1906. I may begin by saying that my fifty-odd stocks came through the winters of 1904 and 1905 without the loss of a single colony, and I only had three swarms in 1905. Last year was a good one for honey in our part, and my hives all did well. I cannot give the amount each stock gave, not having kept any account of returns, but I know that honey sold well and at a satisfactory price. My stocks were reduced to forty-six last year, as I united a few that were found to be a bit weak in numbers. I may also say that beyond a stray swarm found by a neighbour hanging on a tree in my out-apiary —which he naturally supposed to be mine—I had no swarms at all last year; the bees, however, did well—honey almost all sold and the money in my pocket. I never re-queen, preferring to leave all that to the bees themselves. One stock in an old hive I bought about six years ago, and although the combs are all built cross-wise, I have never tried to put them right. In fact, I do nothing beyond keeping the hive dry, and the bees do as well as any stock.

I am a strong believer in the value of introducing fresh blood by getting queens from a distance. My own plan is to get three or four driven lots at some place distant from my own apiary and put them together. I don't feed the bees or give them a lot of comb-building, but supply them with full frames of food taken from my other hives. By so doing I get stocks worth looking at in the spring. I have built up two stocks this winter, each containing three lots of driven bees, and they are now in grand condition. They were on the wing in thousands this last week, the weather having been quite spring-like here at times. I note a good deal has been said of late about "cleaning wet combs," and I may be allowed to say how I manage mine. I start in the evening by removing surplus from five or six hives, and extract the whole at once. Next evening I return the frames of comb to be refilled if honey is still coming in. If not filled again I leave them on the hives all winter, wrapping them up warm and snug and keeping them dry. This done, the bees winter well, and the hives are ready supered for next year's ingathering of extracted honey. Those I work for sections will be put in order to be ready by the time honey begins to come in from the fields. As for excluder-zinc, I discarded that years ago as not wanted under section-racks, and the queens

seldom get up. Some of my hives take fourteen or fifteen frames, and a few still more, but all take over ten, so I give queens plenty of room for egg-laying, which I believe to be the best plan. I sometimes wonder if any of your readers ever tried excluder-zinc as dividers for sections. I used some of mine for that purpose, and it answers well.

With regard to feeding up for winter, I seldom have to do this, as I overhaul my hives at the end of each season and allow, roughly, 25 lb. of natural stores to each. I provide for emergencies by filling shallow bottles with honey of second quality (some of which is always found after extracting), and lay a flat piece of wood in centre of the honey for bees to crawl up when the honey has granulated. The bottle is then put on feed-hole, wrapped up warm, and no candy is required. I cannot help thinking that it is better for the well-doing of bees and of advantage to their owners that they should feed exclusively on their own naturally-gathered stores. I have proved to my own satisfaction many times that stocks so fed are better in health and more forward in spring than others wintered on sugar-syrup. I say this after having kept bees nearly fifty years. In bad seasons, of course, something must be done to tide over risks of famine; but the food given ought to be the best procurable. My bees are the old brown natives, and, like friend Woodley, I have no wish for better. I tried a stock or two of a foreign race once, but they were far behind my old natives. Wishing all brother bee-keepers a good year and our B.B.J. every success.—F. Mower, Winchester.

ZINC ROOF-COVERING FOR HIVES.

A TESTING EXPERIMENT.

[6590.] Some bee-keepers appear to object to zinc as a covering for hive-roofs on account of the metal attracting the sun's rays during hot weather, and thus rendering the surplus-chambers uncomfortable for the bees. In order to ascertain the extent of this trouble, I made some tests one hot day last August, and the results may prove of interest to readers now that zinc covering for roofs is under discussion.

The hives tested were identical in size and make, the only difference being the "coverings," which were of three kinds—lino, calico, and paint and zinc. The figures registered were respectively 86, 88, and 98 deg. Centigrade (I think it requires the addition of about 40 deg. to adapt these figures to the Fahrenheit scale). The figures given are significant, and indicate the necessity of doing something to prevent the concentration of heat on hot days. I notice that your correspondent Mr. Gelder paints the metal. Is this intended to divert the heat; if so, is it effective? This shall be the subject of another test next summer by myself.—W. H. White, Harlington, Beds.

COMPULSORY REMOVAL OF BEES.

[6591.] I started bee-keeping in the year 1905, my apiary consisting of sixteen stocks of bees. The hives are located on a piece of freehold land one acre in extent, bought for the purpose of establishing an apiary thereon. Last season a gentleman built a house on a piece of ground adjoining our apiary, but quite 150 yards from the hives; and this became the cause of our present trouble, which is as follows:—We received a letter from the above neighbour stating that our bees had caused him a lot of trouble, and peremptorily asking us to "remove them without delay." This letter we totally ignored, and it has been followed by another saying that he would hold us responsible for any damage done to him by our bees. Seeing, therefore, that it is a matter of general interest to bee-keepers all over the country, I shall esteem it a great favour if you will kindly give me advice or inform me of best methods to adopt. By way of assisting you in forming an opinion, I enclose a few facts connected with the case for your perusal:—1. The ground had been ploughed twice during the season without any damage being done to horses or men. 2. Eight men and women were employed picking peas for some days without being molested. 3. Several cottages with gardens are much nearer than the house of our neighbour, the occupants of which have not made any complaint against the bees. 4. The question arising in my mind is this: If bees in a quite secluded spot like ours are a nuisance, where are they to be kept? 5. Supposing we were to move them half a mile away, they would be just as likely as not to work his way as any other. Finally, I may say bee-keeping is a source of income to me that I do not want to be deprived of. Thanking you in anticipation of reply, I send name for reference, and sign—B. E. B., Bucks, January 18.

[We do not see any reason why your bees should be removed under the circumstances given above. The *fear* of being stung does not constitute either a danger or a nuisance, and bees kept with ordinary care and skill 150 yards away from a neighbour's house need not be any nuisance whatever. You had better read carefully

the bee-case recently reported in our pages. This will be of considerable help to you in forming an opinion with regard to your own liability. You can be insured to a limited amount against loss or damage to third parties under the insurance scheme of the B.B.K.A. if you have any fear of your neighbour's threats.—EDS.]

TALL SECTIONS.

[6592.] Here we have a subject responsible for one of the most exciting episodes that ever enlivened the pages of the B.B.J. The echoes of the "Tall *versus* Square Section" controversy still ring in our ears. On the one side was the Rev. R. M. Lamb, of Burton Pidsea; on the other almost every bee-man who could wield a pen to any purpose. Everyone in the motley crowd hit hard at the new section and its sponsor, and in his turn the reverend gentleman hit all round. The conservative element assembled in full force to give the new arrival its baptism of fire! Tall sections were anathematised. Old hands banned them, appliance dealers danced on them (metaphorically, of course), and finally the big battalions scored a decided victory—on paper at least. Now, section reform being thus slain and buried, it were only right that resurrectionists seeking to resuscitate the dry bones should feel the wrath of friends "D. M. M.," Woodley, and others of that ilk.

And, accordingly, any favourable mention of tall sections in your columns exposes the perpetrator to like dangers as they who flourish a red rag before the monarch of the bovine herd. So, while pleading guilty to the charge of working the new sections, I must, for safety's sake, disclaim any intention of posing as a red-hot advocate of them. I find the new variety particularly adapted to the production of well-finished honey, free from the far-from-toothsome wax attachments that often mar the thicker combs. The fancy comb-honey I secured last season, sealed solid to the wood all round, would have brought envy, if not conviction, to the heart of "D. M. M."

I am unable to give the latter any information as to the exact amount of "talking" and "explaining" required to sell a "car-load" of tall-section honey. I was not fortunate enough to have that quantity for disposal, but the few hundreds I secured sold rapidly, and I was unable to fill repeat orders for more.

I would, therefore, ask our friends who rake American bee-papers for unkind remarks about tall sections whether Mendelsson, *the* honey-giant of the New World, is not a producer and champion of the newest section. Mr. Lamb, don't forget this when next you bare your sw—pen for the fray.—J. M. ELLIS, Ussie Valley, January 18.

WILL BEE-KEEPING CEASE TO PAY?

[6593.] Whatever may be the immediate circumstances of bee-keeping as an industry, there are not wanting indications that a time may arrive when it will cease to be remunerative. The prices have declined considerably of late, and many bee-keepers have a difficulty in finding a market. The fact seems to be that there is but a strictly limited market for honey. The people do not regard it as a necessary article of food, and even at a low price the consumption does not appear to be stimulated in proportion to the increased production. If the number of bee-keepers were multiplied by three, with a corresponding increase in the production of honey, it looks as if the market would be entirely flooded. It is clear that something should be done to induce the people to partake of honey more largely, otherwise in the near future there will be little or no profit in bee-keeping, though as a hobby it will be always enjoyable.—W. J. FARMER, Cornwall.

PRESERVATIVES FOR HIVES.

[6594.] With further reference to the matter respecting preservatives for use on bee-hives, my opinion is that the ordinary white-lead paint — obtainable at about 4d. per lb.—is not the weather-resisting and wood-preserving material that it is popularly supposed to be. Latter-day chemical and scientific research has overtaken the old-fashioned method of the man with the paint-pot, lead, oil, &c., laboriously mixing the ingredients together. There are now on the market preparations in which white-lead does not, as a rule, form the basis, and yet are recognised by experts, contractors, and others as far more economical and durable than the best-quality lead-paint mixed by the ordinary methods. This can be conclusively proved by painting two boards, one with ordinary lead-paint and the other with one of the specialised paints, which, with your permission, I will mention later on.

The lead-paint becomes porous after exposure to external influence of sun and rain, and will in time turn yellow or brown; consequently it does not become thoroughly protective and flakes or wastes off; while the board treated with the proprietary paint will be found to have retained its whiteness, or, if tinted, its purity of colour, even if it has been brought into contact with sulphuretted gases, moisture, or heat.

The initial cost of these specialised

paints is greater than the lead-paint usually sold and stocked by the oil and colour shopkeeper, but, taking into consideration the fact of the covering power being twice as great as the other, in addition to its greater durability, the gain is on the side of the user.

For those bee-keepers who are not cognisant of these specialised preparations I mention some of the foremost—"Chancellor's Velure," "Browning's Indestructible," and "Aspinall's Sanalene." If a trial is given to any one of these I feel sure that its immeasurable superiority over ordinary lead-paint will be at once recognised and appreciated.

I have no personal interest whatever in these proprietary paints other than recommending them to bee-keepers generally. I send name for reference.—W. R. A., South Norwood, January 18.

THE LANCASTER SHOW.

[6595.] I was rather sorry to read Mr. Crawshaw's jocular remarks poking a little fun at the expense of the Lancaster Agricultural Show and the Bee Section on page 8. The omission of bees appears to me to be simply an oversight on the part of the secretary of the show from the notice sent to you for publication. I may say the honey section of the show has only been established for two years, and to prove to Mr. Crawshaw and bee-keepers generally that we do not forget the little "*insecks*" even during the winter, I forward you an extract from a local paper giving particulars of a lecture by Mr. J. N. Bold, Secretary of the Lancashire B.K.A., on the A B C of modern bee-keeping. I am also looking forward to seeing the particulars of the schedule in the B.B.J. Nothing would give me greater pleasure than to see Mr. Crawshaw's name amongst the exhibitors at the Lancaster show in August next.—William Lloyd, Lancaster, January 18.

DECEMBER RAINFALL.

Total fall, 2.98 in.

Heaviest fall in 24 hours, .57 in., on 12th.

Rain fell on nineteen days.

W. Head, Brilley, Herefordshire.

RAINFALL FOR THE YEAR 1906.

Total fall, 30.96 in.

Heaviest fall, .85 in., on October 2.

Rain fell on 204 days.

Wettest month, January, 5.21 in.: twenty-two wet days.

Driest month, July, .76 in.; fourteen wet days.

W. Head, Brilley, Herefordshire.

Queries and Replies.

[3458.] *Transferring Bees.*—I have three stocks of bees in frame-hives of an old pattern which do not take the standard frames. The combs are very old indeed, and are all built into one another, making it impossible to handle them. I am thinking of allowing the bees to transfer themselves during the coming spring into new pattern hives, according to the method given in the "Guide Book." But I am told there may be a difficulty in doing this, because the old hives, being smaller, will not fit exactly on the new ones. I therefore ask:—Can I not overcome this difficulty by packing up tightly any portions of the new hives which project beyond the old ones, and if necessary nailing down with strips of wood until the transfer is complete? I am assured that the best plan would be to allow the bees to swarm, and then hive them in the new hives. But by doing this there will be the disadvantage of having the old queens in the new hives, and leaving the young ones in the hives I want to do away with. An expert would no doubt be able to unite the swarm with the bees in the parent hive, killing the old queen and introducing the new one when hatched, but this, I fear, would be beyond a novice like myself at present. Any help you can afford me through the Bee Journal I shall be very grateful for.—A. H. S. B., Henley-on-Thames.

Reply.—There need be no difficulty whatever in fixing up the smaller hives above those of larger size if the floorboards of the old hives are removable. All you will need to do is to provide a square of common jute stair-carpet large enough to cover the top-bars of the new hive, and cut a square hole in centre large enough to leave uncovered six frame-tops; then set on the carpet the old hive minus its floorboard, and the thing is done, except for packing warmly all the exposed parts of the carpet which project beyond the hive the bees now occupy. For the rest, follow instructions in "Guide Book" for proper time to operate and the method of working.

[3459.] *Bees and Poisonous Spraying Compounds.*—In the current number of the *Country-side* (vol. iv., No. 88, p. 135) a Mr. Roycull states that the spraying of potatoes with sulphate of copper is the cause of many bees being killed; and he further mentions that this may account for the trouble about bees dying in the Isle of Wight. I think it would interest bee-keepers in general to have this assertion either disproved or confirmed. Hoping to see your opinion in the

columns of the B.B.J.—O. R. FRANKENSTEIN, London, January 19.

REPLY.—There seems to be little doubt that spraying with sulphate of copper or "Paris green" and other poisonous compounds has at times been destructive of bee-life in districts where extensive spraying is in vogue. But with regard to the bee-epidemic which has caused so much alarm in the Isle of Wight, there is no possible connection between that trouble and spraying. Whatever the disease from which bees in the island have suffered, it has no connection with poisoning.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

*** Mr. A. Harris, Wavendon, writes with regard to "Tits and Bees":—"Can anyone advise how best to trap blue tits? I have tried gins, brick traps, spring cage traps, 'Little Nipper' mouse traps, and various baits, but am not successful. So far as I can judge, my bees are all there, though I find it necessary to go round with a hooked wire to make sure entrances are not choked with dead bees."

R. H. C. (Burton-on-Trent).—*Bonâ-fide Cottagers.*—As the competition promoted by the late Baroness Burdett-Coutts, confined to cottager bee-keepers, is now perforce unfortunately a thing of the past, it is not worth while continuing a discussion on the question "What constitutes a *bonâ-fide* cottager?" At the same time, we quite agree with the views you express on the subject—viz., that the donor did not intend the prize for any bee-expert or old hand at exhibiting, but for *bonâ-fide* labouring men or artisans who are bee-keepers.

T. W. M. (Bedford).—*Insurance for Bee-keepers.*—The conditions of new insurance policy for 1907 will be ready for issue shortly on application to Mr. E. H. Young, secretary B.B.K.A., 12, Hanover Square, London.

"NORMAN" (Bradford).—*Candy-making.*—Your sample has not been boiled long enough. It would answer for bee-food if given while moist and soft, but in the course of a week or two it will be hard as a stone. What you term the "trial drop" must be allowed to cool before testing it with the finger, as directed in "Guide Book." The best way of utilising the hard candy is to melt it in hot water, and give it to the bees in syrup form for spring use.

Honey Sample.

"HEATHER" (Sidmouth).—Your sample is mainly from heather (*E. cinerea*). It could not be sold as a high-class heather honey, but is a nice "heather-blend" for table use, and should bring a fair price when it has become more solidly granulated. At present it is in semi-liquid condition.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FINEST ENGLISH HONEY, 14s. per 28 lb. tin; Sample, 2d.—DUTTON, Terling, Essex. v 19

GOOD HONEY, 28 lb. tins, 6d. per lb.—GEO. THOMPSON, "Beecroft," Helpringham, Lincolnshire. s 12

ROOT'S "A B C OF BEE CULTURE" (1903), perfectly new copies, 3s. 6d., post free.—MANAGER, B.B.J. Office, 8, Henrietta Street, Covent Garden, London, W.C.

HONEY.—1½ cwt. Extracted, fine quality. Sample if necessary. What offers?—PAYTON, Council Schools, Glemsford, Suffolk. v 55

PRIME EXTRACTED HONEY, 14 lb. and 30 lb. tins, 6d. lb.; few Grand White Orpington Cockerels, 5s. 6d. each.—WHITING, Valley Apiaries, Hundon, Clare, Suffolk. v 56

WILTSHIRE CLOVER HONEY, superb flavour; Sections, glazed, 7s. 9d. doz; Extracted 12 lb., 6s. 6d., 28 lb. 13s., 49s. cwt.—TUCK, grocer, East Knoyle, Wilts. v 54

FOR SALE, Three Strong Frame-Hives of Bees, 18s. each.—E. D. PRINCE, Mold. v 67

BOOKING SITTINGS EGGS, Minorca, Brown Leghorns, 2s. 6d. doz., unfertile replaced; sired by big winners. — HARRISON, Bee Farm, Middleton, Pickering. v 66

CARBOLINEUM, the best preservative for Bee-Hives, Poultry-Houses, &c., 1s. 3d. per quart, 3s. 9d. per gallon; tins free, carriage paid; paints, &c., of best quality.—GURTH COOPER, 15, Cheapside, Derby. v 65

BEES WANTED. Will exchange first-class Archery Set, comprising six bows, over forty arrows, and target; also a Medical Battery.—MORRIS, 1, Highfield-road, Ilfracombe. v 64

FINE WHITE CLOVER HONEY, in 28 lb. tins, 14s. each; 105 lb., in 2 lb. and 3 lb. glass jars, 6d. per lb.; 40 lb. rather dark colour, 4d. per lb. Sample, 3d. What offers in bulk?—LILLEY, Mill Farm, Dean, Kimbolton. v 63

PURE ENGLISH HONEY, 6d. lb., 28 lb. tins.—TWIGGE, Bencroft, Rushden, Northants. v 62

Editorial, Notices, &c.

BROOD DISEASES OF BEES.

We are indebted to the Department of Agriculture in Washington for the receipt of three pamphlets which have just been issued by the Bureau of Entomology, and which relate to brood diseases of bees. In view of the widespread distribution of infectious brood diseases among bees in the United States, and the importance of the industry in that country, the Government have printed these pamphlets so that bee-keepers might learn to distinguish the diseases as they appear. Notwithstanding that there is legislation in many of the States, and foul-brood inspectors are visiting apiaries, destroying and curing colonies, Mr. E. R. Root, in an editorial in *Gleanings* of December 15, 1906, page 1561, says:—"There is no use trying to disguise the fact that bee-diseases in many parts have been getting the upper hand of us, and now the authorities at Washington are giving us practical aid."

The first pamphlet relates to "The Bacteria of the Apiary, with special reference to Bee-Diseases," by Dr. G. F. White, expert in animal bacteriology in the Biochemic Division of the Bureau of Animal Industry. This paper was prepared by Dr. White as a thesis in part fulfilment of the requirements for the degree of doctor of philosophy at Cornell University in June, 1905. The pamphlet is a purely technical one, and describes the work done in the laboratory by Dr. White, and the conclusions he comes to. So many investigators have found different bacteria in bees, and have tried to ascribe foul brood to some other microbe than *Bacillus alvei*, that it is not astonishing to find that Dr. White has added a new one to the list. There are two diseases in the United States that have hitherto been known as foul brood and black brood. Until now it has been supposed that foul brood was the same in all countries where it has been investigated, and that *Bacillus alvei* was always present as a cause or result of the disease, but now Dr. White tells us that this microbe is not found in American foul brood, but is at present in every case of black brood, and that the microbe of the former is a new one, which he has named *Bacillus larvæ*. Therefore to distinguish between them he calls black brood European foul brood.

The next pamphlet of five pages is entitled "The Brood Diseases of Bees," by Dr. E. F. Phillips, expert-in-charge of apiculture during the absence of Mr. Benton. Dr. Phillips says there are two recognised forms of disease of the brood, designated respectively European and American foul brood, which are particularly virulent. He then describes the symptoms and characteristics of each disease. That there are two forms of foul brood, a mild and a virulent one, has long been admitted, but we are certainly not yet prepared to allow that these differ from American foul brood upon the slender evidence adduced. The symptoms and characteristics of American foul brood as described by Dr. Phillips correspond with those of foul brood as we have it here, and such as we found in the United States when we first visited the apiaries at Medina in 1887. We have since that time had the opportunity of seeing specimens of foul brood in the States and Canada, and in every case the symptoms were similar. Slight variations occur, but there was always the distinctive ropiness and unpleasant odour which can be compared to bad glue. We have also seen many specimens from different parts of Europe and Africa always with the same characteristics.

Our first acquaintance with black brood or "New York bee-disease," as it was at that time called, was made some years ago in California. This was sent from New York State by Mr. West, State bee inspector, and on examining it we at once saw that it differed from what we called foul brood, for, although the outward appearance of the comb was similar, the distinctive ropiness and odour were absent. Notwithstanding that our experience with foul brood was pretty extensive, and dated back for more than thirty-five years, this was the first time we had come in contact with black brood. It was entirely unknown to us except from descriptions in the journals, and not a single sample had been sent to the B.B.J. office for diagnosis. Last year, however, we began receiving from time to time specimens of dead brood differing in a marked degree from any we had previously seen in this country, and which corresponded in nearly every particular with the description given of black brood, and they at once reminded us of that we saw in California. Black brood is of quite recent occurrence here, and we naturally hesitate to accept the statement defining it as "European foul brood," or the assertion of Dr. White that it is caused by *Bacillus alvei*. To say the least, it is quite possible that Dr. White has made a mistake, just as others have done, and has cultivated one of the numerous saprophytic bacteria found in bees. It appears to us that the most important test has been omitted, and until that has been made successfully our judgment must be suspended. The test we allude to is to prove that the disease can be reproduced in healthy brood from a pure culture of Dr. White's *Bacillus larvæ* showing the characteristic symptoms of foul brood—that is, the ropiness and odour. We know that this was done by Mr. Cheshire with *Bacillus*

alvei, but we cannot see that Dr. White has hitherto been able to reproduce the disease with his microbe. Until this has been done the investigations and the conclusions arrived at are of very little value so far as solving the question is concerned.

The third pamphlet relates to the "State and Territorial Laws relative to Foul Brood," compiled from the different Acts in force against injurious insects and foul brood in the United States. The States in which laws regarding these already exist are California, Colorado, Idaho, Michigan, Nebraska, New Mexico, New York, Ohio, Texas, Utah, Washington, and Wisconsin.

HUNTS. BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of the Hunts. Bee-keepers' Association was held at the Montagu Institute, Huntingdon, on Jan. 26, Sir Arthur Marshall presiding. The annual report and balance-sheet were presented by the hon. sec. and treasurer, Mr. S. Watts. This showed a very satisfactory state of affairs, both financially and otherwise. Considerable progress had been made during the year, which had closed with a balance in favour of the Association. The report was adopted. The election of officers then took place, practically all the officers being re-elected. Much interest was manifested in a gift by the late Baroness Burdett-Coutts of a hive as a prize in a competition for the best show of comb or run honey by labouring men who were members of the Association. It was also resolved to record the loss which bee-keepers had sustained by the death of the Baroness, who was the President of the British Bee-keepers' Association, and had for thirty years been one of its best friends and supporters. Other matters of interest to the Association were also discussed.—*(Communicated.)*

CROYDON AND DISTRICT B.K.A.

ANNUAL MEETING.

The annual meeting of the above society was held in the social room of the Free Christian Church, Wellesley Road, on Thursday, January 10. Mr. E. Pressy occupied the chair, and gave a short account of the doings of the Association since its formation in October. It appeared that over fifty bee-keepers had given it their support, and many had made up their minds to start in the spring. He paid a high tribute to the secretary (Mr. A. Wakerell) for the able manner in which he had conducted the business up to the present, and he believed it was the beginning of a great movement in Croydon. He also thanked the Press for the way in which they had supported the Association in its efforts. The first business was to elect a president, and Mr. Alderman Lillico was elected unanimously. Other elections were then made as follows:—Mr. R. D. Galbraith (chairman), A. Wakerell (secretary), G. White (treasurer), Messrs. H. Brice, jun., L. Bell, C. Pay, W. F. Hosegood, E. Pressy, W. J. Handly, P. Chalmers-Frances, H. Horne, E. Fisher Webb, E. Seadon, Miss Grace E. Shaw, and Miss E. Wickham Jones (Executive Council). The rules were passed without comment. Suggestions were then made by several members that an annual show of honey should be held, and it was eventually left for the consideration of the committee. The Chairman then called on Mr. C. Pay to read a paper, "Forty Years of Bee-keeping." Mr. Pay gave his hearers some of his experiences of bee-keeping from his boyhood days with the old straw skeps, and its various stages up to the modern frame-hive, some of his old appliances causing much amusement. He urged the members to work together and increase the membership by getting more people to take up with this the most fascinating and remunerative of all hobbies. A vote of thanks was given to Mr. Pay for his interesting paper, and to the chairman for presiding. The next meeting takes place on Thursday, February 7, when Mr. Seadon, of Bromley, will give a lantern lecture on "Bees and Bee-keeping."

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[6596.] The last few days of severe frost have been a "sharp snap" for things apicultural, and a change of temperature will be welcomed by us all. If any number of dead bees be seen about entrances they should be cleared out in the orthodox way, by using a piece of strong wire bent to a hook shape. Cakes of candy also may need renewing on any day when the bees are flying. In giving this advice I hope that the candy is placed above the first quilt, which latter should not be disturbed at this season. The quilt referred to will now be propolised down to the top-bars, except just where the strips of wood lie which form the winter passages. Stocks thus packed

for winter can have cakes of candy given at any time with no disturbance of the colony.

With the lengthening days the good bee-keeper begins to prepare for the coming season by placing his orders for bee-goods early in the year, thus securing better attention along with other advantages obtainable on early-placed orders. This done, the various articles can be got in readiness before outside work demands all one's spare time. With bee-work, as with other things, our motto should be "Whatever is worth doing at all is worth doing well," and hurried work is generally done badly. Frames can be made up and wired ready for the new season's foundation when this is obtainable, hives made and painted ready for swarms, section-racks made, and such faulty ones as produced deformed sections altered so that they have upright sides and fit correctly in the racks.

Zinc Covers for Hives.—I have had several hives covered with zinc over the wood roofs for some years, and almost all have been painted light stone colour. These hives are interspersed among others with wood roofs, along with some not painted at all, yet I have not found any difference as regards either the ingathering of honey or swarming. I have made no tests with thermometers, so cannot give the difference in temperature, if any. I have always written the word "warmth" in bold letters across my page of practical bee-keeping, and, so far, have had no cause to alter it for nearly thirty years.

Tits and Bees. — Mr. Harris (who writes on page 40) can trap tits easily by baiting his spring traps with a piece of suet. I used to destroy tits every winter, but as the bees at my out-apiary were found more forward year after year with no trapping than at the home-apiary, and noticing the busy little tits running up branch after branch of my fruit-trees in quest of insects, I have discontinued trapping them, and instead give the birds a bone to pick, on the branch of the tree, instead of the small trap. No doubt they catch a few bees, but if a fresh bone is put for them they will not do any appreciable harm to the bees.—W. Woodley, Beedon, Newbury.

SUPPRESSING HEATHER EXHIBITS.

WITHHOLDING AWARDS.

[6597.] Surely your correspondent "D. M. M." must hold queer ideas as to the meaning of his own words. On p. 513 of your issue of December 27 he speaks of "money fairly won by somebody, but withheld." In the "little parish" of London, of which I am a parochial-minded parishioner, such conduct is deemed dishonourable, and, in fact, an action-at-law would lie against a show committee or managers who did such a thing. Clearly the "chasm" I have leaped is of "D. M. M.'s" digging. Now, being assured that "had he thought there was even the semblance or tincture of anything dishonourable he would not have touched the subject," I am driven to seek for some other, or Banffian, meaning for these words; also for the words "paid" and "pay" on page 33, and am forced to conclude that the first phrase means *should have been* won by somebody, &c. In the second phrase, "A fourth prize should have been *paid*," for "paid" read *awarded;* and the third, "Will pay all prizes offered," should read "Will award all prizes offered." There is a vast difference between the two words, because every prize awarded must of necessity be paid; but it is not necessary that every prize offered should be awarded. Should "D. M. M." accept these corrections he will place the burden where it should rest—namely, on the shoulders of the judges; but even those gentlemen will find it difficult to award all the prizes when (as has happened twice) there are more prizes than exhibits! In connection with this matter of judges withholding prizes, it is pleasing to note that our mutual friend Mr. Carr receives "D. M. M.'s" commendation as a judge of heather-honey, and, as Mr. Carr has judged at fifteen out of the sixteen London shows at which comb heather-honey has been exhibited during the last six years, "D. M. M." may rest assured that the exhibitor has always had full consideration given him.

But we get at the truth at last when we learn that "most Scotch heather-men have standing orders up to an average season's produce, so there is small inducement to exhibit." So it is not altogether for the prizes that men exhibit at the shows, nor the withholding of one now and again that keeps them away.—T. I. Weston, Hook, Winchfield.

FOUL BROOD.

THE CASE FOR SUPPRESSION.

[6598.] Can foul brood-combs be saved? Even if they can be, is it not better to destroy them and start afresh? This is naturally the first question to be considered, but there are several ways of looking at this matter. The novice is quite likely to get the trouble all over again after he has been to the expense of renewing combs and frames; but if he can be shown how to keep the plague under by simple means, even if he does not at once secure complete immunity, he may

be obtaining profitable results all the time, and will renew his combs as presently explained. The more expert bee-keeper is placed very much in the same position as regards current returns, and unless the bees can be given a fresh start at the most favourable season there must be considerable loss. For my own part I would rather avoid wholesale destruction in the case of the honey-producer, except where diseased stocks have been allowed to waste beyond help.

A very practical bee-keeper who rarely secures less than 100 lb. per colony as his average, being in a district infested with the bee-pest, has given up all attempt to cure his apiary, except that he uses a well-known disinfectant in the syrup as he finds it necessary to make up the complement of store for winter or spring use. In the spring of 1905 this apiarist had a terrible outbreak of foul brood, the worst he ever had, but presently the fine weather, with the consequent increase of vital energy, enabled the bees to "suppress" the disease, and thereafter to give a large yield. The most severe case he hardly hoped to save, but returning energy resulted in suppression first, then 92 lb. surplus and a $7\frac{1}{2}$ lb. swarm. The following year the same old stock, with a young queen, showed no further sign of disease, and yielded over 220 lb. of honey. A stock showing a clean bill of health the whole of a second year would be considered a long way towards being cured, but as the owner makes no attempt beyond suppressing the disease, the case is given simply as one example of what vital force is capable of accomplishing.

It was in the mid 'seventies I first found that a colony of bees in fair numbers would remove all visible evidence of disease if made queenless for a period; and I have arranged many such cases since, as I took advantage of the fact by placing the queen and flying bees of an affected colony in a fresh hive on foundation, and placed on the original site, finding that the young bees left on the old combs did just as well without the mature workers.

This is only done during the warm months, and, of course, with stocks not run down; but on no account must any bees be *shaken* from the old comb, while the original hive of combs is to be removed as quietly as possible to a new spot about 10 a.m. To make doubly sure, the bees may be sprayed either with Izal or soluble phenyle solution the previous evening, parting the combs and spraying between. But without this precaution I have never seen any cells affected in the new combs of the swarm; and yet how often such disastrous renewal has happened where the whole of the bees have been incautiously shaken from the combs directly on to foundation.

After a few days a virgin queen may be given to the bees on the old combs, and by preference she should be either Italian or Carniolan, as natives are, in my opinion, less able to subdue the malady. When this young queen is laying the owner will see that marvellous process of "suppression," even if no disinfectant be used, though with such he probably has the means of permanent cure.

However, if it is thought desirable to destroy the old combs, by continuing the above-named treatment he may first have the pleasure of securing a powerful colony, and if not too late a second swarm may be made, presently uniting the two swarms, with the young queen presiding. The remaining young bees, after all brood has hatched, may also be utilised for uniting to the above, when the old combs may be disposed of. When one is assured that the disease can be suppressed, it is certainly better to be able to secure a powerful stock rather than destroy the original at the first sign of the pest.

Stocks that are already reduced to a handful of bees cannot be worth troubling about, and, of course, must be destroyed; but those with three or four combs of bees, or others which are to be carried along to the warm season, will always repay the owner for the addition of a healthy comb of hatching brood, the change from lethargy to vital energy being most marked in such cases.

Stocks which are strong and supered, but known to be diseased, should have the disinfecting solution of Izal sprayed into the entrance several times weekly. Where symptoms of the complaint are discovered in early spring or late autumn the medicated syrup should be given in quantity, more especially in autumn, which is not only the most simple and efficacious remedy I have found, but is non-poisonous and never disliked by the bees. Where the pest is known to exist in any locality it is but wise to supply all stocks freely with medicated food as above, even to the extent of getting the combs almost solid with such store in autumn.

Suppression as here referred to implies a state of apparent freedom from the bee-pest. Then why not continue that progressive state until final success is attained, so that no combs need be destroyed? Everything depends upon the maintenance of vital force and energy, but the coming of autumn chills may check further endeavours, as the energy of the bees relaxes, leaving them liable to renewed disease in early spring; for unless all the stock-combs have been passed through the brood-nest during the progressive period of treatment, those which may be so omitted cannot be considered cured, especially when the colony has not been a strong one, as too often is the case. Nevertheless, my treatment

fully provides for carrying such stocks through the following season and onwards until a permanent cure is effected.

In my next I propose to give the case for a permanent cure without medicinal agents. — SAMUEL SIMMINS, Heathfield, Sussex.

PRESERVATIVES FOR HIVE-WOOD.

AN ARCHITECT'S VIEWS.

[6599.] Your correspondent "Carbo, Cheshire," writing in the JOURNAL in reference to my article of December 20 last, has had an experience somewhat different from mine. Personally, I may say in my occupation as an architect, outside of which I spend a little time occasionally (as a relaxation from the seriousness of business) on matters connected with bee-keeping, I have had a rather extended experience of "Carbolineum," "Solignum," "Stop-rot," and similar preparations. I know a case where much of the internal joinery of a large residence is stained with carbolineum (diluted slightly with a mineral oil), and my own dining-room floor has been stained with carbolineum, with pleasing effect. After the preparation sinks in, and the (to me pleasant) odour passes away, which takes only a few days, the floor does not retain the dust any more than natural wood; does not lose its colour when scratched and considerably worn; can be washed in the usual way, and is always pleasant to look upon.

All these preparations are splendid antiseptics, and preserve wood against "dry and wet rot" and all kinds of insects. Lichen will not grow on wood treated with it in the manner it does very quickly on paint. Many of your readers know of the unpleasant green lichen that quickly appears on painted hives if in the neighbourhood of trees, and which sticks freely to the hands in wet weather.

I enclose samples of the treated wood for our Editors' inspection, and ask them to observe that one piece has been twice coated recently in my workshop: the other has been twice coated and exposed to the weather for about ten months as a porch-roof. This latter sample shows how the preparation penetrates the sap-wood, where it is most required.

With regard to firms who make the various preparations. Messrs. Mander Bros., of Wolverhampton, manufacture a preparation either green or brown in colour, and call it (I believe) "Woodsoline." Messrs. Pilcher, Morgan's Lane, Tooley Street, S.E., make a brown preparation which they call "Stop-rot." Messrs. C. A. Peters, Derby, are makers of a brown preparation called "Carbolineum Avenarius." Messrs. Major and Co., Hull, manufacture one in three shades of brown and one of green called "Solignum."

As to obtaining any of the above preparations, I have never had the slightest trouble. Any good oil and colour merchant or painter in a large way of business is certain to stock one or the other of them, or at least would quickly obtain it to order. The prices for a single gallon drum range from 3s. 6d. to 4s. 6d., but drop to about 2s. in large quantities, the green shade costing about 1s. more.

I have now twenty-four hives treated with one of these preparations, and am perfectly satisfied in all respects with regard to expense, appearance, and convenience. If any of your readers think well to copy my example, I would enjoin them to read carefully my first description of my method, as given in your issue of December 20 last (page 506).

Regarding samples of wood enclosed for editorial inspection, they are as follow: 1. Untreated wood, red deal (rough from saw). 2. Precisely similar deal, treated quite recently with Carbolineum Avenarius. 3. A better quality deal (wrought), treated—twice on one side and once on the other—and exposed as porch-roof for ten months. Please observe the effect in the sap wood.

Your readers would find that the material I mentioned for roofs (Ruberoid) puts paint and rags into the shade. I enclose card, but continue to sign myself—LITTLE WESTERN APIARY, January 18.

[Thanks for samples. They enable us to judge clearly with regard to the preservatives used. No. 1—if used for inside work—would need to get rid of the odour, hardly perceptible in Nos. 2 and 3. There is no trace of stickiness about any of the samples, and we should consider the material to be very suitable for hive-wood. We intend to keep the samples by us for future reference, and use as specimens. —EDS.]

ABOUT CARBOLINEUM FOR HIVES.

BY ONE WHO HAS TRIED IT.

[6600.] The question of carbolineum and its uses about bee-hives having of late been freely discussed in the B.B.J., I am able to throw a bit of light on the subject from practical experience. Allow me, then, to say if you paint the outsides of hives with carbolineum they must be put outside for a couple of months before being occupied by bees. The smell will then be gone, and not the least harm will follow in any shape or form. There is no doubt that it is the best wood-preservative known to-day. I have a hive which was coated with carbolineum three seasons ago, and as I took sixty sections from it this last year I don't think it can

do harm either to bees or their produce. Anyway, I am going to cover some more hives with it next month. Of course, I only used it for outside. I hope when my time is less occupied to send you my plan of dispensing with the use of queen-excluders, and also of preventing swarming. Several bee-keepers of my acquaintance have tried it with much success, and will not again use excluders. I send name, &c., and sign—CARBOLINEUM, Sheffield.

CLEANING UP WET STORE-COMB.

[6601.] With reference to the letter of your correspondent "W. H. S." (6588, page 34), I could not add the word "always," except at the sacrifice of truth and right, seeing that the statements I made were the outcome of my own experiments and observations. If, however, "W. H. S." will venture on a few experiments himself, with the same object in view, I will be glad to compare results, and have no doubt the end will be peace between us.

Storing honey in the underside of comb laid horizontal is not so difficult a job as your correspondent supposes: indeed, I am surprised at his doubts regarding its possibility. It is well known that if we dip a glass tube—open at both ends—into a vessel containing liquid, and after pressing the finger on the upper end to exclude the air, we can lift the tube without its contents escaping. This is the principle involved, and the bees seem able to apply it in some way in order to achieve their object. The same power accounts for the fact that the larvæ of wasps and queen-bees are retained in the cells of combs placed horizontally, and do not fall out while alive. But if the tube experimented with is held at about the same angle as the cells of an inverted comb the contents will escape at once. Thus the bees appear to be placed at a greater disadvantage by simply inverting the comb than by laying it flat down.

I was glad to see Mr. Woodley's note on page 24 *re* placing joints of sections on the underside. I will try again. My trouble, however, is less with brace-comb than with propolis, which is gathered in great abundance by the bees located in my home-apiary.—H. POTTER, New Brompton.

THE "NOTABLE BEE-CASE."

[6602.] I was much interested in the report of the above case as given in the B.B.J., and am decidedly of opinion, as formed from the evidence, that the verdict of the jury was the right one.

Being an old bee-keeper myself, and knowing from long experience something of the habits and uncertain temper of the bees, I must affirm that it was a most unneighbourly act to continue the existence of thirteen hives of bees so near to the doors and windows of a neighbour's house after complaints had been made of the nuisance, and requests made for their removal. Bee-keepers, as you say, "have their rights," but surely they have no right to infringe on the rights of neighbours.

I fully endorse your remark anent keeping on good terms with your neighbour, but is there not another moral?—viz., avoid doing anything to your neighbour which you would not have your neighbour do to you. A man, as the Judge remarked, has a perfect right to keep his bees or fowls in any part of his garden most convenient for himself, always providing he is not inflicting an injury on his neighbour. To me the most surprising feature in the case seemed to be that it should have come into the court at all.

I gather from your report of the case that both parties were members of the same association. Why, then, was not the matter submitted to the executive of the Association with a request that an enquiry be held with the view to an amicable arrangement between the parties? Surely this is one purpose for which an association exists, and from my knowledge of the executive of the particular Association to which both parties in the case belonged, I feel certain they would have been not less able than willing to advise quite as judiciously and impartially as Mr. Justice Phillimore, and certainly less expensively. Another moral: *Confide in the wisdom of the Executive of your Association and keep out of court.*

All bee-keepers are deeply indebted to you for securing such a complete report of the notable case for the pages of the B.B.J. I send name, &c., and sign—NEIGHBOURLY BEE, Bromyard, January 22.

COMPULSORY REMOVAL OF BEES.

[6603.] I fully endorse the editorial remarks in reply to "B. E. B., Bucks," on page 37 of last week's B.B.J. If bees are of a gentle strain it is quite certain that they may be kept within 4 ft. of one's door without any risk of people being stung, but the bees must be managed properly. With hives standing 100 ft. away from a house (to say nothing of 150 yards) it is ridiculous to have neighbours complaining. I have kept a row of hives with pathways on each side only 8 ft. away, and only twice have my neighbours been stung during two years, and they took it in good part. There was a 4-ft. hedge a yard away from the hive entrances, and the bees had to rise over this in their flight, and thus cleared the pathway. In my present district I have hired a field for the bees, and am thus able to dispel

my neighbours' fears, but I should not trouble to do this if I could place the hives 80 ft. or 100 ft. from the public roadway. During a tramp in Cornwall I found four "W.B.C." hives in the little front garden of a village cottage, close to the door and public road—a busy road, too. Seeing, then, that your correspondent "B. E. B." has bought an acre of land on which to locate the bees, it appears most selfish of a later comer to step in and seek to entirely spoil his purchase. I think that if it came to law the Judge would consider this. If bee-keepers are to be harassed by unreasonably timid people like this, the sooner our legitimate rights are made known the better for these unneighbourly neighbours. People must be reasonable in all things, and where not so their demands should be resisted.

Referring to the question of the most suitable colour for painting hive-roofs, may I say that in Lancashire the roofs of weaving-sheds are whitewashed outside to secure coolness inside? Will not this apply to hive-roofs?—W. J. Farmer, Cornwall, January 26.

THE PRICE OF HONEY.

[6604.] I notice in your issue of January 17 an advertisement from Methwold, Norfolk, offering light-coloured honey, mainly sainfoin, at the rate of less than 5½d. per lb. in 14-lb. tins.

I certainly feel constrained to write and say that while our associations are doing all in their power to encourage the working classes to keep bees as a profitable hobby, there are individuals who, rather than put a little grit into the business, undersell their neighbours, and hinder them from adding to their already bare necessaries of life. Further comment is needless. Name sent for reference.—H. M., East Norfolk, January 21.

"WILL BEE-KEEPING CEASE TO PAY?"

[6605.] I felt downhearted after reading Mr. Farmer's letter on page 38 last week for the first time, but on a second reading, along with a little reflection, I regarded it as a sample of pessimism of the first water. There are, however, several pertinent statements in it, but it is not easy to see what can be done "to induce people to consume honey more largely," as Mr. Farmer suggests. Honey is not a necessity, nor do I think its value would be appreciably enhanced even if the number of bee-keepers were divided, instead of "multiplied by three," not even if that number formed themselves into a "combine" to protect their produce. We should remember that the natural craving for sweets is confined chiefly to the childish age. Therefore if we are to dispose of our produce in the future, non-bee-keepers will have to become childish, and large pennyworths of honey must be offered for sale, otherwise we must consume it among ourselves. The latter point opens up a wide field for thought, and in my opinion there is plenty to do on our own side of the fence without weeding about on our neighbour's piece, seeing that it is a fact that many bee-keepers hardly know the taste of honey, and many partake of fewer drops of it than they do of formic acid! On referring to the "honey imports" for 1906 (page 21), we see that the value of honey imported in 1906 was less than in 1905. Does that indicate a lower price per pound, or a greater yield of our own produce? I take it to mean the latter, and if so my best wish to all bee-keepers is that their surplus may be trebled in 1907, and that their numbers may also be trebled in consequence. If this wish becomes realised, then, in my opinion, bee-keeping would still be one of the most remunerative of our minor industries, for there are not wanting indications that a time may arrive when all industries will cease to be remunerative, but I cannot write or think in the infinitive mood. — T. W. Swabey, Bracebridge Heath, Lincoln.

[We freely insert the above communication, though it is not easy to reconcile the fact of the writer being a qualified expert of the B.B.K.A., a lecturer on bees and bee-keeping for the Lincs. Bee-keepers' Association, and engaged by the County Council of one of the divisions of the county in lecturing on behalf of bee-keeping as a pursuit, while at the same time holding the peculiar views expressed in his letter with regard to the uses and value of honey as an article of food.—Eds.]

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Honorary Degrees.—"I thought it possible that one day the B.B.K.A. might confer an honorary degree upon me." (Page 496, vol. xxxiv.)

"I never for one moment seriously expected an honorary degree to be conferred on me." (Page 27, vol. xxxv.)

At first sight this does appear contradictory, and Mr. Newman must forgive me that I took the first excerpt seriously, but my excuse must be that the rest of his article appeared *au grand sérieux*, and I read it accordingly. I, who am not *always* serious myself, feel that I ought to have known better.

Derbyshire B.K.A. (page 32).—This Association appears to be flourishing as judged by its favourable balance. It is, however, not fortunate enough to be quite

free from disease, but as the number of diseased stocks noted is a multiple of thirteen, that evidently accounts for the modicum of bad luck! The number of skeps owned is a third of the membership, and about a thirteenth of the total stocks. With three honey-tongued members to each skep, and perhaps a trifle of support from the *balance*, the figures may become quite lucky!

Heather Exhibits (page 33).—As a heather-man I entirely endorse the remarks of "D. M. M." as to the impossibility of fairly comparing this honey with clover-honey. It is very difficult to get show sections in most years, and his suggestion of a six-section exhibit is worth consideration. The vexed question of prizes withheld seems to me to be related to the lack of a standard of excellence. If there are only four exhibits, and these are all of first-class excellence, it is manifestly unfair to withhold third and fourth prizes, whilst awarding all four in a third-rate class containing a dozen entries. If there were such a standard of excellence for the various prizes the first and second might be fairly withheld in the full class, or, indeed, the third and fourth in a class where the tail exhibits merely qualified for inclusion by the paucity of entries.

Odds and Ends (page 34).—What is a "She-Mercury"? We must rub up our mythologies! Was not Atalanta sufficiently fleet, after whom our Red Admiral butterfly is fitly named? Is it not wonderful that so quicksilver-winged a creature as a butterfly or a bee should be developed from a leaden-footed caterpillar or an apodal grub?

Swarming Incident (page 36).—Stocks do undoubtedly vary as to the relative day of casting swarms. It is impossible for us to lay down the law with absolute certainty, as it is also difficult for us to judge perfectly of what constitutes a favourable swarming-day from the point of view of the bee. How many of those swarms you expected failed to come off *that* day? Elsewhere in this number are some lines dealing with an aspect of deferred swarming.

Zinc Roofs (page 37).—Is not Mr. White mistaken in the figures he gives? They are astonishing if correct. He is, however, mistaken as to the Fahrenheit equivalents. These are respectively 186.8 deg., 190.4 deg., and 208.4 deg. Fahrenheit. It is difficult to believe that a bottle of syrup under a zinc roof might be within three or four degrees of boiling point! A point or two more and it would dribble down scalding hot on the combs below. But at this temperature it would be quite safe from robbers! If any bees were trapped in such a roof it is certain that the wax in their waistcoat pockets would run down their trousers!

Lancaster Show (page 39).—I am very much obliged by Mr. Lloyd's courtesy and only sorry that I cannot avail myself of it at present. My district is not a show district, as we have no white-clover honey. The present correspondence on heather exhibits will, however, stir up many of us heather-men to show for the credit of the class. Perhaps later we may even meet at the Lancaster Show.

Blue Tits (page 40).—Why not make a wire-screen for the front of the hive, through which the birds may not pass, but through which the bees can easily fly? Then buy a few cocoanuts to keep the birds busy elsewhere!

Queries and Replies.

[3460.] *The Various Makes of Sections.*—Could you advise me on the following?—1. Is the no-beeway section an improvement on the old style? 2. Which would be the best divider or separator for use with same, metal or slatted wood? I have only been a subscriber to B.B.J. for about ten months, during which time I have not noticed anything about either subject mentioned above. Perhaps you could refer me back to some older number containing information or discussion about the different forms of sections and dividers. Name, &c., enclosed.—FORRESTER, New Forest, January 17.

REPLY.—1. It appears to be definitely settled by the great majority of bee-keepers in this country that the older style of section is preferable to the "no-beeway" and fence-separator necessary for use with the latter. 2. Those who still use the no-beeway section are divided in opinion with regard to the wooden fence-separator, and the metal divider with projecting pieces of tin used in securing passage-way for the bees. Our personal objection to the fence-separator is formed wholly by the unsightly ridges visible on the face of sections as frequently met with on the show-bench.

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. MACDONALD, BANFF.

Wintering Baby Nuclei.—Gleanings has been devoting a great amount of space lately to the wintering problem, which bulks much more largely in America than with us. Here is how Mr. Allan Latham preserves his baby nuclei:—"Make a box, 8 by $4\frac{1}{2}$ by $4\frac{1}{2}$ inside measure, with a loose bottom. Bore a hole $\frac{3}{4}$ in. in one end close to the open side. Wedge four sections of cheap honey in this space. Shake out 2 quarts of bees, which, with a queen, form your little colony." Cases are made

to take twenty-four of these, stacked in six tiers of four each. He had twenty-one good ones in spring. The cases were wintered in a cellar. He considers four or five pounds of stores ample, and a pint upwards of bees will do. Perhaps some of our enterprising experimentalists will investigate and report next season.

Mailing Queens.—Messrs. Root are reverting to the original Benton cage pure and simple for dispatching these on long journeys, and state three conditions necessary for success. The candy must be made just right, not too hard and not too soft. The candy-hole must be thoroughly coated with beeswax or paraffin, and when candy is pressed in it must be covered with a sheet of thin wax or foundation. A plain wooden cover completes the equipment, and this is nailed down perfectly tight. There is absolutely no ventilation but a few awl-holes piercing the end compartment of the cage.

Painting Hives.—Perhaps there is nothing new to learn on this subject from the other side, but this is how the operation is advised to be carried out:—"First have all hives perfectly dry and clean, prime with yellow ochre and raw linseed oil. Be sure to fill all nail marks and cracks. Let this priming dry, say three or four weeks, before putting on second coat, which should be strictly white lead and raw linseed oil. Be sure to let this coat dry thoroughly, leaving it fifteen or twenty days. Then give the third coat. Add to this a little zinc, and use boiled oil, rubbing out thin. The other two coats should be rubbed out thin also. This paint will never peel off, as so many paints do, as they will be thoroughly cemented to the wood."

Drastic: Rather! — "To save the 'National' all of the present officials who were mixed up in the League affairs (excepting Mr. France) must step down and out, and the constitution should be so amended that no supply manufacturer, dealer, editor, publisher, or their agents or employees, even down to the staff correspondents and 'department editors,' shall be eligible to office." So saith Mr. Arthur C. Miller in *American Bee-keeper*. If I were an American I would be inclined to query "Who made thee a ruler and a judge? and why in the name of goodness should all these good men and true be assigned a place in this Index Expurgatorius?" Looking at the matter impartially from the standpoint of distance, I would vote against such a motion, if for no other reason than that it would exclude Mr. A. C. Miller himself, whose valuable services would, I am certain, be a boon to the National. The Texas Convention evidently endorsed this common-sense view of the subject. Here, in our own country, I have no doubt a hesitation in affirming that some of the very best "blood" of the B.B.K.A. would have been lost to the parent Association if this extremely lop-sided rule were in force.

Thorough.—Even *shaking* as a cure for F.B. is not thoroughly relied on in America. At the bee-inspectors' meeting at San Antio Mr. J. M. Rankin, of the Bureau of Entomology, stated that "few inspectors in California now recommend the shaking treatment. The method fast coming into favour is that of boiling up the diseased combs and bees in a large tank." Mr. Louis Scholl, Texas, holds the same views. "Shaking has not proven satisfactory, and the line our inspectors now work on is to sulphur the diseased colony at the entrance, and then burn the infected combs." This has been my confirmed opinion for years, and our Editor in his replies to queries always advocates the ordeal by fire. In the worst cases his invariable dictum is "Burn the lot!"

Lazy Bees!—The editor of the *Review* has had experience of these:—"One strain fell far behind others. In the spring the colonies seemed as populous as the others: in fact, they appeared to be in reality stronger, yet they did not get honey. The management was the same, but these bees did not produce results. These lazy *fellows* (oh, Mr. H.!) would hang in great clusters on the front of their hives. They had plenty empty comb inside, but simply seemed to lack the ambition to fill it." Mr. Hutchinson deposed these queens and requeened, which was the very best thing he could have done. The reason why certain bees behave thus is a complex one, but at times they do.

A Bright Example.—Gleanings says:—"The little Republic of Switzerland has thirty-two experiment stations for bee-culture with a force of thirty-five experimenters. A beautiful annual report of about fifty pages is published, in which is a condensed report of the work done in the previous year. Maps and diagrams are used to elucidate the text, together with beautiful half-tones of the flowers treated of in connection with the work of the bees." If Switzerland can do so much is it not sad that Great Britain does *nothing!*

The United States Government has a State apiary, with a staff of well-paid officials. It is well known that one of them, Mr. Frank Benton, is making a tour round the world with the main object of obtaining new races of bees and new bee-plants. Dr. Phillips, another of the officials, is giving special study to several other phases of apiculture, and Dr. G. F. White is making a special investigation of foul brood. Mr. Root says: "He finds that there are two distinct brood diseases, one more destructive than the other. For some years inspectors have noted the same fact. In Europe it has been repeatedly stated that there were two

diseases." The description given on page 1562 (*Gleanings*) is identical with one virulent type of F.B. Why, then, confuse terms by calling it American foul brood?

THE VIRGIN QUEEN.

Pent have I been for unknown time within the womb
Of this mysterious prison house of pain;
Whose magic outer wall but swiftly heats
Ere it is cut; though severed silk reveals
Where I have challenged freedom from my living tomb;
Where I have found my labour all but vain.

Oft have I heard and answered calls aflame with hate
And vibrant passion. Princess though I be,
Born but to peaceful rule, yet will I sing
Battle, and—Hark! The sudden rush of wing!
Hushed in the after silence, sounds the herald, Fate,
Bidding me carve my freedom. I AM FREE!

L. S. CRAWSHAW.

Bee Show to Come.

March 9, at the Preston Scientific Society's Rooms (in connection with the Annual Meeting of the Lancashire Bee-keepers' Association).—Open to Members of the above Association whose house rent does not exceed 6s. per week. Class for two jars Extracted Honey. Prizes: 1st, Baroness Burdett-Coutts Prize Hive; 2nd, Root's "A B C of Bee-keeping"; 3rd, Cowan's "Guide Book" or "Honey Bee"; 4th, Bound Vol. of *Bee-keepers' Record*; 5th, "Modern Bee-keeping." No entry fees. Apply to Jas. N. Bold, Hon. Sec. L.B.K.A., Almond's Green, West Derby, Liverpool. **Entries close March 1.**

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

T. W. SWABEY (Lincoln).—*The B.B.K.A. Library.*—Our correspondent might do well to bring the subject of his letter before the Lincs. B.K.A., of which he is a prominent member. If he (or the L.B.K.A. with his help) can formulate a workable scheme by which the library at Hanover Square can be more readily availed of than at present, or more usefully employed, we do not doubt it will receive full consideration at the hands of the Council. At present, members of the B.B.K.A. can have the free use of books (with a few exceptions) on payment of postage; and we do not see how the advantage can be pushed much further, having due regard to the preservation of the books entrusted to the care of the Council. It is a well-known fact that books in "circulating libraries" do not last many years, and as our correspondent's proposal—so far as containing any definite project—suggests turning the Hanover Square collection into a "free circulating library of bee-literature," we fear the books it now contains (including a few rare and valuable volumes impossible to replace) would disappear altogether in the course of a few years, if the—no doubt, excellent—intentions contained in his letter were carried out.

SUFFOLK BEE-KEEPER (Ipswich).—*Queen-mating.*—A young queen, on leaving the hive on her marital flight, when drones are flying freely from all hives, usually she soars to some height, and then, accompanied by numerous drones, she takes a long and very rapid flight, leaving behind the less vigorous of the male bees. All the conditions being favourable, mating takes place far away from the parent hive, and the drawbacks connected with inbreeding are avoided.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

LIGHT-COLOURED HONEY, in bulk and 1 lb. screw jars, for sale, in quantities to suit purchasers; sample, 2d.; also 6 doz. well-filled sections.—Apply, HON. SEC., LINCS. B.K.A., Tothill, Alford. v 76

TILLEY'S PATENT (Won't Leak) HONEY RECEPTACLES, as exhibited at 1906 Dairy Show, Islington; samples, 2 lb. size, for Honeycomb, and 1 lb. for Extracted, with instructions, 1s., post paid.—M. H. TILLEY, Bee Farm, Dorchester. v 69

SAINFOIN and WHITE CLOVER HONEY, in 28 lb. tins. What offers? Sample, 2d.—A. E ROWELL, Ashdon, Saffron Walden. v 70

WARRANTED PURE ENGLISH HONEY, mainly Sainfoin, in glass jars or in bulk; also a few dozen Sections.—Apply, for samples and quotations, stating quantity required, to J. HOWLAND, Brampton, Huntingdon. v 72

BEE JOURNALS, seventeen vols., in exchange for Extracted Honey, good colour. What offers?—L. WREN AND SON, High Street, Lowestoft. v 74

Editorial, Notices, &c.

ROYAL AGRICULTURAL SOCIETY.

DATE AND PLACE OF THE 1908 SHOW.

The first meeting of the Council of the Royal Agricultural Society after the Christmas recess was held on January 23 at the Hotel Russell, W.C., the Earl of Yarborough (president) in the chair. Among those present were the Earl of Coventry, the Earl of Northbrook, Lord Middleton, Lord Moreton, Sir Richard P. Cooper, Sir Humphrey F. De Trafford, Sir Gilbert Greenall, and Sir John H. Thorold.

A deputation from Newcastle-upon-Tyne, consisting of the Lord Mayor of Newcastle, the Deputy Lord Mayor, the Sheriff, and Councillor Gillespie, with Mr. Anthony F. Nichol and Mr. W. J. Bolam, representing the Northumberland Agricultural Society, attended to offer a cordial invitation to the Society to hold its show of 1908 at Newcastle. Mr. Rea introduced the deputation.

The Lord Mayor said that the vote in the City Council had been unanimous, and the invitation was also supported by 79 local bodies, as well as other agricultural societies, some of whom would not hold their local shows if the society came to Newcastle. They hoped, and the whole of the North of England hoped, that the Society would accept their invitation to hold the show at Newcastle.

The deputation having withdrawn, the matter was discussed by the Council, and in the end it was unanimously decided to accept the invitation, and that the show be held in the first week of July, 1908.

In reporting the issue of the prize-sheet for the show to be held at Lincoln from June 25 to June 29 next, satisfaction was expressed that the Council were able to present such a comprehensive schedule. The total value of the prizes offered was £8,366, of which £900 were contributions from the Lincoln local committee, £139 from the Lincolnshire Agricultural Society, £2,596 15s. from various breed societies, and £730 5s. from other sources.

WORCESTERSHIRE B.K.A.

ANNUAL MEETING.

The annual general meeting of the above Association was held at the Shirehall, Worcester, on Saturday, January 26. There were present the Rev. E. Davenport (in the chair), Dr. Walpole Simmons, Misses Turner and Dudman, Mr. and Mrs. P. W. Painter, Messrs. G. H. Bailey, W. H. Hooper, G. Richings, W. J. Smith, P. Leigh, J. Price, T. Huband, H. Higley, T. Rouse, G. Bracken, A. R. Moreton (treasurer), J. P. Phillips (secretary). Apologies for absence were received from the President (Lord Coventry), Rev. J. B. Wilson, Mr. C. C. Duncan, and Mr. H. March.

The Secretary read the report, which showed that the officers and experts had done good work during the past year. Their increased membership (larger than in any year since 1885) proved that the bee-keepers of the county recognised its usefulness. The percentage of hives affected with foul brood was lower than that of any year since they had had statistics. The secretary would be glad to hear from bee-keepers wishing to qualify for experts of the B.B.K.A.

A discussion upon the prevalence of foul brood followed. The Chairman pointed out that, although bee-keepers with foul brood were visited by experts and told to destroy the bees, they sometimes took no steps. He thought if the advice of the expert was deliberately discarded they would have to consider whether it was worth while visiting that person again.

Mr. Hooper agreed, and said it showed the necessity for legislation giving powers of destruction.

After further discussion the report was adopted, as was also the statement of accounts and balance sheet, which showed subscriptions from 200 members amounting to £45 0s. 6d. The total receipts were £63 15s. 9d., and the balance in hand £17 1s. 5d.

Dr. Walpole Simmons was thanked for the immense amount of work he had done for the Association, and unanimously elected a vice-president of the Association.

Mr. George Cadbury also was elected a vice-president, these two taking the places of Sir Frederick Godson and Mr. T. Corbett, deceased.

Messrs. Moreton and Phillips were unanimously re-elected treasurer and secretary respectively, and Mr. Richings was re-elected show secretary.—*(Communicated.)*

CRAYFORD (KENT) B.K.A.

The bi-monthly meeting of the above Association was held at the Crayford Parish Room, Mr. E. R. Stoneham, President, in the chair. There was a good attendance. The minutes of the previous meeting were read by the hon. sec., Mr. H. Bates, and the rules for the Association adopted. Mr. Isaac Nelson, of Belvedere, then gave a very able and interesting address on "Bees and Bee-keeping," illustrated by a lantern, very kindly lent and manipulated by Mr. Dewey, High Street, Sidcup. The slides were obtained from the British Bee-keepers' Association. The next meeting will be held on Thursday, February 14, when the spring and summer programme will be decided on. Home-made appliances will be brought for in-

spection, and Mr. Roper will open a discussion on "Queen-Rearing." Intending members are requested to apply to the hon. sec., Slade Green School, near Erith.—*(Communicated.)*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

AMONG THE BEES.

IMPROVING APIS MELLIFICA.

[6606.] Are we to be content with "scrub" stock, or are we now and from henceforth to make an earnest and determined effort to breed so that we may improve our race of bees? That is the question of all others which should engage the attention of apiculturists all over our islands, and, indeed, all over the world. For daring lately to assert that there was a doubt in my mind as to whether we had queen-breeders or simply queen-rearers, I was accused of being ignorant of the subject. Well, here comes the report of the late Chicago Conference, and with it one of the leading lights amongst a galaxy of other luminaries repeating my very words. I wish I could give Dr. Phillips's paper, but the gist of the matter, with a few quotations, must suffice. "Queen-breeding is usually not done with a knowledge of the common principles of breeding as practised on other animals and plants. The average per colony is not much better than it was forty-five years ago, and with some strains there is good reason to believe that it is less. I am inclined to think that prolificness is actually decreasing." And for this last effect he assigns as a cause faulty queen-breeding. Some further light may be thrown on the subject by my next quotation:—"From the introduction of Italians (about 1860) there has been an interest in breeding this race for colour, and this has been done very successfully. Some other breeders have selected for gentleness, and it is evident that, either intentionally or accidentally, some good has been done along this line."

He brushes the long-tongue theory aside, curtly remarking that when a red clover Italian queen is sold "her progeny, before many generations, cease to work on red clover, *if they ever did*." That last clause I have ventured to italicise because it is a telling one. It is well to have cobwebs brushed aside at times.

Dr. Phillips throws Nature's ways, with the sulphur treatment, into the dust-bin, because he believes modern apiculture is, and should be, made up largely of methods and practices which are very decidedly different from those of natural environment, and he adduces as improvements modern hives, movable frames, sections, supers, introducing queens, extracting honey, shifting brood, mailing queens. Proceeding, he defines apiculture as "the science which takes into account the habits and adaptations of the instincts of the honey-bee, so that by deviations from Nature man may increase the productiveness of these instincts for his own good." Our knowledge of bees is really very limited, and there are plenty of unknown things in apiculture, even passing by the theoretical, or scientific, side of bee-life, and dealing only with dollars and cents. In fact, what is wanted is more honey.

This brings me back to the point with which I began:—"One of the first considerations is the need of better methods of queen-rearing, because—even bearing in mind improvements—methods are crude and too uncertain. After testing every method of queen-rearing, there seems to be some faults in all." Here is the deliberate conclusion, after extended trials, of a man of the widest experience, not simply an opinion of a novice with a limited knowledge.

That queen-rearing in this country should be placed on a better footing is a *sine quâ non* if we are to have a better class of bees and be in any way successful in improving our stock. A regular system of weeding out "scrub" stock, undesirables, and failing queens should be practised. All queens, no matter what their age may be, who fail to increase their progeny to fit them to secure a fair, good average surplus should be deposed. The bee-keeper should systematically do this, replacing them by queens he can rely on as improvements, or guaranteed as such.

Here is a high ideal:—"A breeding-queen should be the very best in at least 500 tested queens." The other 499 are not to be destroyed, but they are not to be bred from. They may do for the man who simply *rears* queens; the chosen one only is fit for the man who *breeds* queens. It may be a stretch of the fancy to express a desire that we should have such queen-breeders in this country. "Like begets like. A prolific female produces daughters that are also prolific, though not all to the same degree; but it is an established law—or a principle—of breeding that excessive prolificness in the female tends to produce prolificness in her offspring, at least above the average for

the race. To secure this in queen-breeding hundreds of queens must be bred and tested every year, and only a very few chosen to continue the work during the following season."

Now this I say without fear of contradiction: while we have men who rear so few queens that they have to keep customers waiting we shall never have selection! Every queen of every batch goes out, no matter what defects she may possess, if they are not over-patent. That it may not be supposed that I am a voice "crying in the wilderness" on this subject, I should like to quote a few authorities showing that improvement is urgently desired by others. Mr. McEvoy, Canada, says: "Ninety per cent. of the queens on the American Continent want killing." Mr. Green considers "too much of our breeding has been done haphazard, and without any intelligent direction. My own experience with superior stock has been very disappointing." Mr. Scholl's opinion regarding our queens is: "The best of them is none too good. Too little attention is given this subject, and if more were given better strains would be found than the run-down strains that are not yielding the profit that could be obtained." Mr. Hutchinson's opinion is that "well-directed efforts at improving stock will prove the most profitable of any which a bee-keeper can pursue. The wonder is that it is so greatly neglected." Mr. York, of the American *B.J.*, has again and again quite recently devoted short editorials to the subject of improvement of stock, and he has emphasised the pressing need there is for securing better queens. He has even the gravest doubts whether the belauded "tested queens" really conform to the guarantee given by queen-breeders. In addition to what I have quoted, a very large bulk of further evidence could be produced from both sides of the Atlantic to show that the subject deserves the gravest consideration if bee-keeping is to take the prominent position which is its due.—D. M. M., Banff.

THE PRICE OF HONEY.

COTTAGER BEE-KEEPERS V. AMATEURS.

[6607.] In referring to recent letters in your pages on the question of the reduction in price of honey, and especially to 6604 (January 31) and Mr. W. J. Farmer's letter on page 38, wherein he asks, "Will bee-keeping cease to pay?" I can fully endorse his views, but must take exception to the letter of "H. M., East Norfolk," on page 47 of last week's B.B.J. I take leave to say that what is put forward as the leverage by means of which the working classes may add to their income has proved in many cases to have worked in the opposite direction, and, in fact, has much to do with the present state of things as regards price of honey.

What has applied to other small industries (such as poultry-raising, &c.) for years now also applies to honey. In other words, a good season makes for low prices, and honey-production may in the years to come prove one of the least profitable of minor industries, because honey is not so saleable a commodity as fowls, eggs, fruit, &c. Not only so, but anything approaching a "glut" of honey is realised much more rapidly and felt more severely. Remembering also the rate at which new recruits are joining the ranks of bee-keepers, it will not surprise me if in a few years the best qualities of honey will find sales at 5d. per pound. It is over twenty years since I started bee-keeping on the modern system, and at that time skeppists were easily able to sell their produce at 8d., but now many of them would be glad to part with their season's take at 4d. I could have bought hundredweights of skep honey at 4d. per pound last season, but declined, having quite work enough in disposing of my own crop. Possibly a little more grit put into the business would have mended matters, but in my earlier days of bee-keeping I seemed to have quite sufficient business ability to sell my produce with less than half the expense and trouble incurred nowadays. At the same time, it is far from my desire to belittle the work of associations, but I feel certain that whether by associations, inducements, or influence, or any other means, new members are made in hundreds, and instructed in modern methods of honey-production, so sure is it that prices will get lower and lower in market value.

Three weeks ago I journeyed to Southampton (one of the best commercial towns in England) on honey-selling bent, and I there saw advertised by large-printed card in shop window, "Half a ton of finest extracted honey for sale in 1-lb. jars at 8d. per lb." A large quantity of the honey was on view, and almost every shop I entered had an abundant stock, and would not purchase mine at 50s. per cwt.

As an illustration of the great advance of bee-keeping, we have here a valley running in almost a straight line for about three miles, and in that valley there are 220 colonies of bees in frame-hives, and, in addition, a good many colonies in skeps. The frame-hive owners are new converts to the craft—not old bee-keepers converted to new methods. This means an excess of over two hundred colonies beyond the number kept twenty years ago. In earlier days the "necessaries of life" to the cottagers were appreciably added to by

the produce of their dozen or so of skeps, sold at 8d. per pound. It must, however, be admitted that "selling" is now transferred from the cottager bee-keeper either to the amateur bee-keeper or to the shopkeeper, whose incomes are not so precarious as that of the cottager or artisan. I do not hesitate to say that in many cases it is these latter who are ruining the trade. They start the "drop" in prices, because it is of small consequence to them whether the price is 5d. or 6d.; their incomes are assured from other sources, and no trouble over rent day to worry them. In face of these facts—and they are facts—what chance is there for the poor skeppist bee-keeper? I do not pretend to suggest a remedy, the trouble now seems inevitable; but, if not, then surely associated bodies should easily be able to hold their own against the unit with his low prices, and that without a wail; but the time is not far distant when the most determined stickler for old prices will have to succumb.—Owen Browning, Hants.

TITS AND BEES.

A GARDENER'S VIEWS ON TRAPPING AND FEEDING.

[6608.] In answer to the question "How to Catch Tits" (page 40), your correspondent can easily trap them in small "gins" if he either glues some maize on the bridge of the "gin" or ties a small piece of suet or mutton fat on it, either plan answering equally well. Another good method is to catch a tit in a spring cage, and then transfer the bird to another cage, keeping a piece of muslin hung over the caged bird for a few days. The latter will remain quiet enough to use as a "call bird." This done, and with the call bird in the bottom part of the cage and a little fat above, the tits are sure to be caught. I find tits a nuisance when catching bullfinches, because if the trap is left long they are sure to make a dash for the hempseed in the bottom part of the cage. As a gardener I encourage tits all I can on account of the good they do in removing the scale on fruit trees, which is their natural food.

When a boy I used to feed the pheasants for my father, who is a gamekeeper, and I then noticed how plentiful the tits were among the spruce. The numerous tits would pounce on the maize as soon as thrown down and carry away single grains into the trees. We kept bees at home at that time, but, beyond clearing the dead bees away, I do not think the tits ever took a live one. I hang out meat bones for them to pick here, and often notice odd tits carrying off dead bees, but have never seen them interfere with live ones. I would advise bee-keeping readers to purchase a few cocoanuts and, after sawing them in halves, hang them up about the hives with the open sides of the nuts downward. The tits will then cling to the bottom edge of the shell and peck all the white part of the nut out. When empty the shells may be filled with tallow (either "sweet" or "Russian" tallow suits them). During hard weather several species of tits will visit and feed on the tallow, cocoanuts, or maize. I enclose name, &c., and sign—Parus, Stamford, January 30.

MY "BLACK" STOCK OF BEES.

SOME HIVING EXPERIENCES.

[6609.] At first glance I daresay our Editors will be preparing to draw the editorial blue pencil through the above heading, but after reading the following account of the behaviour of one of my stocks during the past two years I trust they will change their minds and allow it to remain as written. The stock to which I have given the above title was in a straw skep when purchased by me in the spring of 1905. They are a race of very black bees, but their very bad behaviour since also entitles them to the term of my "black" stock in another sense. In the following summer it threw off a very large swarm, and having only five frames of foundation ready, I placed these in a ten-frame hive without a dummy, intending to put the other five in later on. I put the quilts on top, and late in the evening hived the bees at the entrance; thinking they would be all right, I left them. The following morning I took a peep in, and found that they had clustered, not on the frames, as I expected they would, but on the side of the hive, as far as they could get from them. I got another five frames ready, and at noon, it being a very fine day (accompanied by some of my scholars as assistants), we prepared to put matters right. We opened the hive, removed the quilts as usual, and were about to insert the frames when all at once a great commotion began to take place amongst the bees, and, almost before we realised what was taking place, the hive was empty, all the bees soaring aloft in the air, and, in less time than it takes to tell it, they were over the hill in front of the apiary and out of sight!

Though fairly surprised myself, I was much amused at the astonishment depicted on the faces of my helpers, who had—like their master, I must admit—never seen bees act like this before when manipulated. One of the younger hands was overheard quietly enquiring of his schoolmates in Welsh, "What has master

(*Continued on page* 56.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

Bee-keepers who are small farmers are less numerous than we should like to see them, because we feel sure that, to those who only occupy small holdings, a few well-stocked hives would prove a very profitable branch of the farmer's work, if well managed and located in a good honey-district where natural bee-forage is plentiful. Neither fruit-growing on a small scale nor poultry-raising is comparable to bee-keeping, but, as stated above, the forage available to the bees must be capable of yielding honey of high-class quality if profitable bee-keeping is the object. After reading Mr. Davenport's notes we think he would do well to extend his bee-garden. He says:—

"I have kept bees during the ten years I have been here, and my late father's hobby was 'bees.' He did not, however, go in for the ordinary type of frame-hives, but liked to make his own, with glass windows on three or four sides. These are the sort of hives I have always used until recently. At the beginning of 1905 I called to see an old friend who takes a great pride in his bees, with the result that he persuaded me to go in for up-to-date frame-hives, made to hold the standard frame; so, being a bit handy with tools and at joinering, I got the timber, and made half a dozen hives at odd times. Five of them are shown in the photo. The other one I exchanged with my bee-keeping friend for a queen and small nucleus colony of Carniolans. It is a frame from this same stock that I was holding in my hands when the photo was taken. The bees in all the hives seem to have done very well considering that they had to be transferred from their old homes into the new frame-hives. They were put into the three which stand close together on my left hand. The one on my right hand is a strong artificial swarm, made from the middle one of the three by placing a frame containing a queen-cell from the old hive into the new one, and moving the parent-hive to a new stand. This operation proved quite successful, and both old stock and swarm did well. I have taken a fair amount of surplus honey, and am well satisfied with the results for the year. Three of the hives have the frames hanging parallel to the entrance, while in the other two they are at right angles to the doorway. I am very fond of bees, but have not much time to attend to them, being fully occupied with the work of the farm."

MR. J. DAVENPORT'S APIARY, WHEATLEY, SHREWSBURY, SALOP.

("*My 'Black' Stock of Bees*," *continued from page* 54.)

done to the bees?" "He has sent them home to dinner," was the ready answer of one of the older hands (a noted inventor of excuses during his school career), who appeared unwilling for a new beginner to think that his master, a second-class certificated expert, had lost control of his bees. By this time I began to realise the position, and conjectured that, although a first swarm, the queen must have been a virgin, and was on the point of taking her marital flight just as we opened the hive. Having explained this as well as I could to my helpers, they, though somewhat puzzled and not quite satisfied with the clearness of my explanation, gladly assisted me in re-arranging the frames and putting on quilts and cover; afterwards we opened the entrance wide and then awaited events. In a few minutes one of the lads, who had been sent out to "scout," called out, "The bees are coming back!" and sure enough we had the pleasure of seeing them again come over the hill, make straight for their hive, and scuttle into it as fast as they could, and this time through the proper entrance. They then settled down to work in earnest, and gave us no more trouble that year. When shut down for winter they were healthy, covered the ten frames, and had a plentiful supply of food.

In the spring of the following year (1906) I detected signs of foul brood in a few uncapped cells, and as this did not give way to treatment, I decided, when the honey-flow was on, to adopt what is called the "McEvoy cure," which was carefully carried out in every particular; but the day that I gave them the full sheets of foundation to work on they "mutinied," and at noon I found the hive empty and the bees clustered round a thick post—a difficult position to hive them from, and on an attempt being made to do so, they refused to be hived, and took wing instead. I threw water into the flying bees by means of a cane sweeping-brush, and at last got them clustered in a good position for hiving. This time I got them all in a skep, and they appeared to settle down, so I left them, having to go away for some hours. On returning in the evening I went to the skep, thinking to replace them in the hive they had left; but I found it again empty. On making a search, I found them clustered round the stem of a fir-tree. Again the attempt at hiving was a failure. They took to wing once more, but eventually I got them to cluster on the branch of a tree, from which they were successfully hived, and at once carried to their hive, and on being thrown out in front they immediately entered.

I kept them shut up for two days, feeding them on medicated food, after which time they settled down to work, and at the end of the season were one of my strongest lots. How they will be as regards health, and how they will behave themselves the coming season, remains to be seen. Should they again "mutiny," or leave the beaten track of an honest, industrious hive of bees, I will let you and your readers know.

They are in a zinc-covered hive, and if this, together with their other inherent qualities, "causes the wax in their waistcoat pockets to melt during the coming summer, and run down the legs of their trousers," I will drop a line to our good friend Mr. Crawshaw.—H. SAMWAYS, Maesybont, Llandebie, February 2.

TESTING ZINC COVERS FOR HIVES.

[6610.] Surely the writer of the note under the above heading, on page 37 of your issue for January 24, must have made a mistake. He says that the temperatures of three tested hives respectively reached the astounding figures of 86, 88, and 98 deg. Centigrade! This would mean 186.9 deg., 190.4 deg., and 208.4 deg. Fahr. respectively. I fancy he must mean Fahrenheit, not Centigrade, for the figures given.—T. SMITH.

[No doubt the conclusion you arrive at is right.—EDS.]

BEES AND THEIR ENEMIES.

A PLEA FOR THE TIT.

[6611.] I am pleased to see from our friend Mr. Woodley's "Notes" on page 43 that he is no longer a foe to the tit as being an enemy of bees. I have kept bees about eighteen years, and, after close watching, have never yet seen a tit attempt to catch a live bee. I have never fed them in any way. They are very busy just now about the hives carrying away the dead bees and eating a portion of the bodies. In view of all this, I came to the conclusion many years ago that tits are what one may call scavengers of the apiary. I say this because when a warm spell comes, and bees are taking their flight in great numbers, I see no tits about; but when the bees have settled down after carrying out their dead comrades, the tits are back again and busy removing the dead bees thrown out of the hives. They do this only in the winter months when other insects are scarce, and at such times they will fly on to the alighting-boards, and pick dead bees from about entrances in sharp, frosty weather when it would be death to a live bee to leave the cluster.

I think this is where bee-keepers are mistaken, to imagine that the tits are snatching up live bees from the hive and eating them. On the other hand, tits are insect-eating birds, and destroy thousands of injurious insects that damage our crops, and in this way are of great use. They are also very pretty, and instead of destroying we should protect the tit. With regard to other birds, I have watched sparrows and several other kinds of birds catch drones in summer; but not tits. I think the most noxious bird to fruit-growers, gardeners, and bee-keepers is the bullfinch, as it lives wholly upon seeds of flowers and buds of fruit. In this way they also cut off the bee-forage for the bee-keeper. Name, &c., sent for reference.—STONEHOUSE, Gloucester, February 1.

SUPPRESSION OF FOUL BROOD.

[6612.] I have read Mr. Simmins' article on page 43 of last week's B.B.J. In my opinion, the most reliable method of treating foul brood is to clean out diseased cells, if not numerous, as far as possible, and spray with soluble phenyle. I have tried Izal, but discarded it, phenyle being much better to use, as it does not clog up the sprayer with gritty matter as Izal does. I spoiled two or three good sprayers through using the latter. There is not the least doubt in my mind that foul brood will be entirely cured by spraying if taken in time, and it seems to me that an intelligent man with plenty of time to look after his bees need not dread the disease at all. I have given up opposing legislation, but personally I would infinitely prefer to be free from Government control. I think that as bee-keeping is chiefly followed as a recreation, it becomes really a private matter, while the man who runs it for profit can himself always suppress foul brood; such, at least, is my own experience. I have had it in my apiary since this matter was last discussed. I have even imported diseased stocks, and yet most certainly prefer liberty to legislation. I say this advisedly and deliberately as the result of experience in my own apiary and among bees belonging to others. I have suffered very little loss, even with my worst case of foul brood, and have no great fear of the disease, being able to cure it with ease in the early stages, and no bee-keeper worth considering need ever let it pass that stage. If he does he is either incompetent or needs experience. In spraying I have used other chemicals than those named, and found them effective, but for convenience I prefer soluble phenyle, which is practically indistinguishable from Izal when made up with water.—W. J. FARMER, Cornwall.

COVERING FOR HIVE ROOFS.

[6613.] Like the poor, this hardy perennial is always with us, and for the information of any interested reader I may say that I have made experiments similar to those proposed for another year by Mr. W. H. White, and, without being able to give exact figures, I may say the conclusion arrived at was that zinc unpainted was one of the worst forms of covering to adopt for hive roofs. I find that all metals, and especially those with a smooth, shiny surface, are great conductors or attractors of heat. On the other hand, I am a great advocate for covering hives with zinc as one of the best and neatest coverings (I use No. 9 sheet zinc) if given two or three coats of a good white paint. The paint gives the hives a more finished appearance, and, white being a non-conductor (*i.e.*, not so easily affected by extremes of temperature as other colours), it keeps the hives cooler in summer and warmer in winter. I had hives standing side by side, the roofs covered with zinc painted and unpainted, and while the unpainted roof in hot weather was almost unbearable to the naked hand, the painted one was quite cool to the touch. I hope your correspondent W. H. White will carry out his proposed experiment and give us exact figures. It would be interesting to the readers of the B.B.J. along with myself.—W. C. STONE, Wellington, January 29.

PRESERVATIVES FOR HIVE-WOOD.

INTERCHANGEABLE STANDS FOR HIVES.

[6614.] Referring to the letters of your correspondents "Carbo" and H. Witt, in B.B.J. of January 10 (pages 16 and 17), may I be allowed to give my experience in the use of carbolineum for bee-hives and other outdoor woodwork? It is now some fifteen or sixteen years since I first used this compound, and I have found it of the greatest value for preserving the roofs and legs of the hives. I cannot advocate its use for the body-box or for floor-boards, because of its being as objectionable to bees as to all other forms of insect life. But I cannot agree with "Carbo" when he says that carbolineum is "non-drying," though it is slow in the process of drying. My own experience is that the carbolineum penetrates the wood, so that in two or three weeks' time, according to the weather, it is wholly absorbed, and the surface is then quite dry. If exposed to the sun it will go through ½in. pine or deal boards in about three hours.

I have found it a good plan to place boards measuring about 2½ft. by 3½ft., well dressed with carbolineum, flat on the ground under the legs of all my seven

hives. This is also an easy and effective way of keeping grass and weeds from growing round the legs of the hives and obstructing the bees when passing in and out. The boards referred to are set quite firm and perfectly level, so that a hive may be put down on any board with the knowledge that it needs no levelling, and any hive may take the place of its neighbour. In this way I have secured the great advantage of interchangeable stands. I may say that I am never troubled with ants, as they will not go near carbolineum. Name enclosed for reference.—PRESERVATIVE, Derby, January 15.

PRESERVATIVES FOR HIVES.

SPIRITS OF TAR A GOOD ONE.

[6615.] Referring to letters in B.B.J. *re* carbolineum, it may be of use to some of your readers to know that "spirits of tar" can be procured for about 6d. per gallon, and makes an excellent wood-preservative. This was recommended to me by a chemist as a substitute for carbolineum, and which would answer the same purpose. I have used it myself for hen-houses and hive-stands, but not for a sufficiently long time to prove its preserving properties. However, you may consider the information worth publishing. The price, at any rate, compares very favourably with the compounds under discussion.—E. C. S., Yorks, February 1.

MATERIAL FOR HIVE-MAKING.

A SUBSTITUTE FOR WOOD.

[6616.] I have read with much interest the correspondence in the B.B.J. *re* the above, also "Zinc for Hive-Roofs" and "Carbolineum for Hives." There is one substance I have never seen mentioned as a material for hive-making, called "Euralite." "Euralite" appears to be composed chiefly of asbestos. It is made in sheets 2ft. by 2ft., or 2ft. 4in. by 2ft., and about $\frac{3}{32}$ in. thick.

I made four hives of "Euralite" at the beginning of last year. They have gone through all the heat of the summer, and the wind, rain, and snow of the autumn and this winter, not to mention taking them up to the moors. To-day the quilts and the inside are as dry and snug as anyone could wish for. The internal temperature is only very slightly influenced by the outside atmosphere, as "Euralite" is a non-conductor of heat. Another enormous advantage it has over wood hives is, no matter how wet it gets or what heat is pouring upon it, it won't warp or shrink in the slightest degree.

"Euralite" can be supplied waterproofed by the company's process at a slightly extra cost, which, by the way, is about the same as, or a little less than, Californian red wood; but I made my hives of the ordinary, and have found that three coats of good paint have kept the inside perfectly dry.

I might say I have no connection whatever with the firm who supply "Euralite," the idea of using it for hive-making having been suggested by an architect friend of mine, who has used a fair quantity for false ceilings over boilers as a preventive against fire. It has also been used for summer-houses, &c. Hoping I haven't taken up too much of your valuable space, and wishing all bees had such cosy homes as mine have.—J. NORMAN LONGFIELD, Laurel Bank, Ilkley, February 1.

["Euralite," as a material for hive-making, was mentioned at the last conversazione of the B.B.K.A. by Mr. W. F. Reid, but did not find favour with those present owing to its requiring to be fixed to a wood framing. Personally, we do not think it will ever displace wood for hive-making purposes.—EDS.]

"FOR THOSE WHO KEEP BEES."

[6617.] The enclosed cutting is from a Sheffield paper, and is sent for your consideration. I have read a few technical *posers* in the B.B.J., but this sponge foundation story seems to me to top most of those I have seen. To you this may be an old process; to me it is quite new. Will you therefore oblige by giving your readers your opinion on this very "spongy" tale? I may also ask, Is it supposed that queen fertilising takes place *only* when the insects are on the wing, and that, once fertilised, it suffices for that queen's whole life?—G. C., Sheffield.

[Except for the purpose of showing what absolute nonsense gets into the daily Press on the subject of bees and bee-keeping it would be wasting space to print it. With regard to your second question we may say (in Parliamentary phrase) "the answer is in the affirmative."—EDS.]

The cutting mentioned above is headed "For Those Who Keep Bees," and reads as follows:—

"Some years ago, by utilising a rather original idea, a bee-keeper in the Midlands procured more than double the quantity of honey from his bees. Having come to the conclusion that his bees seemed to spend more time in making their combs than in procuring honey, he at first did away with the natural comb by giving them one made in the usual manner of wax. But this seemed to have a detri-

mental effect on the bees, many dying. It was then that he struck out on an original line. He procured some very large West Indian sponges, washed them thoroughly, and then put them into the hives. The bees took to them immediately, with extremely lucrative results, as instead of wasting a lot of time in building their combs they spend all the summer in collecting honey."

WEATHER REPORT.

WESTBOURNE, SUSSEX,

January, 1907.

Rainfall, 1·09in.
Heaviest fall, ·68 on 1st.
Rain fell on 8 days.
Below average, 1·38in.
Sunshine, 70·3 hours.
Brightest day, 31st, 7·2 hours.
Sunless days, 9.
Above average, 2·4 hours.
Maximum temperature, 51° on 1st.
Minimum temperature, 20° on 24th and 25th.
Minimum on grass 18° on 24th.
Frosty nights, 11.
Mean maximum, 43.
Mean minimum, 34·4.
Mean temperature, 38·7.
Above average, 1·2.
Maximum barometer, 30·735 on 23rd.
Minimum barometer, 29·193 on 2nd.

L. B. BIRKETT.

JANUARY RAINFALL.

Total fall, 1.66 in.
Heaviest fall in 24 hours, .47 in. on 2nd.
Rain fell on 15 days.

W. HEAD, Brilley, Herefordshire.

Echoes from the Hives.

Lancaster, January 15.—On the 11th inst. the thermometer registered 40 deg. Fahr. here, and we had over three hours of bright sunshine. The bees had their first salutary cleansing flight this year. They turned out in thousands, and enjoyed themselves thoroughly, while the bee-keepers who saw them were delighted.—W. L.

Queries and Replies.

[3461.] *Bees Dying Off in Winter.*—I am sending herewith a small tin containing dead bees. This is the third year I have wintered these bees, and each time, about the end of January, they seem to die off wholesale. The sample sent I raked out to-day from under the frames. They were a fine populous colony in the autumn, and I took particular care only to leave them their own sealed honey for wintering on (and plenty of it, too), no sugar feeding whatever. I took this precaution in order to avoid any chance of dysentery. They occupy seven frames in a good "Combination" hive, double-walled on three sides and a single wall with a packed dummy in front. The bees had plenty of good warm packing in rear of division-board at back, with an abundant supply of quilts on top, and good ventilation. The first winter they and a similar colony occupied a "Wells" hive, and they died in much the same way. I am puzzled to know why they dwindle so badly. Last April there were not sufficient bees left to cover well all sides of two frames, yet by midsummer they had increased to a good strong stock, and before the season was over had filled a super of nine shallow frames. The queen is a daughter of a queen bought from Malan Bros., and has been a wonderfully prolific one. Before she was much more than a fortnight old she had practically filled seven standard frames with worker-brood, and, being cramped for room, she began to lay in the front comb, which comprised about half drone-cells, and produced drones. Does not this upset the theory that queens do not produce drones in their first season? I am sending the sample of dead bees in the hope that you may be able to give a reason for their dying like this. I have one or two other hives that are practically the same strain, but they do not dwindle anything like so badly. Is it that they are too delicate to stand the cold, or have they reached the end of their natural term of existence? I take the B.B.J. regularly, and will be glad if you will kindly reply through its columns. I send name for reference, and remain—A PUZZLED HYBRID, Salop, January 29.

REPLY.—The bees are Ligurian hybrids, and bear evident signs of having either been robbed themselves or had hard fighting in defending their stores from robber bees. The bulk of them have lost all traces of pubescence, or "hairiness," from the abdomen, which is black and shiny, as is usually the case when robbing has been prevalent. We cannot imagine any other cause for dwindling apart from "robbing," unless the extreme prolificness of the queen in summer causes an early cessation of breeding when the honey-season closes at end of July. If this is so, the dead bees removed from floorboard will be old and worn out, and have died from natural causes.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

H. G. DENTON.—*Making Hives from Bacon Boxes.*—With so many other—and drier—used boxes available, we should not advise you to select bacon boxes for hive-making, the "salt and damp" mentioned being quite against your ensuring the dry home for the bees so essential to their well-doing.

J. C. D. (Devon).—*Joining County Associations.*—Unfortunately, there is no county B.K.A. in Dorset (as in Devon), and no monthly journal except the *Record*. Perhaps some of our Dorset readers might be willing and able to afford the "expert help" you desire.

J. S. (Lancs.)—*Insurance for Bee-keepers.*—The "conditions" of the Open policy under which insurances are effected may be obtained from Mr. E. H. Young, Secretary B.B.K.A., 12, Hanover Square, London.

J. GRAY (Long Eaton).—*Honey Sample.*—Your sample is of very good aroma, colour, and consistency. The flavour is good, but not specially so. It is mainly from clover. We see no trace of lime-honey in it.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

EGGS, Black Leghorns and White Wyandottes. Leghorn pen, headed by winning cock, Hutchinson, mated to pedigree layers of Sturges' and Melbourne's strains; Wyandottes headed by grand cock, winner first and special Oswestry, Barnstaple, Almond Brook, his sire won Palace Challenge Cup outright, pullets of Royden's and Hick's strains Price 5s. 6d. per sitting; unfertile replaced.—PIDDUCK, Sunnyside, Alsager, Ches. v 92

FOR SALE, two Standard Bar-frame Hives, with Bees, three Section Racks, &c. Must sell, no room. Price £2 the lot.—R. I. B., 116, Divinity-road, Oxford. w 5

FOR SALE, Picturesque 8-roomed house. 1¼ acres, well-stocked garden, bee house, wash-house, fowl, duck house, pigstye, large cycle house, coal house accommodation, pony and cart, paddock, tennis court, &c., £350 freehold; also 30 stocks bees, with or without hives.—Apply letter, H. A. TAYLOR, Little Cornard, Sudbury, Suffolk. w 4

WHITE ORPINGTONS and BLACK MINORCAS.—We have again some splendid pens of each variety, bred from exceptional layers and true to type; special price to brother bee-keepers. Eggs 3s. for 15, 10s. for 50; day old chicks, 6s. doz., £1 for 50; all carefully packed, carriage paid on two sittings.—J. HOUSEHAM, Huttoft, S.O., Lincolnshire. w 3

Special Prepaid Advertisements.—*Continued.*

LIGHT HONEY.—9 doz. ½ lb. screw cap jars, 4s. 3d. doz.; 3 doz. (nominal) 1 lb., at 7s. 6d. doz.; 1 doz. good Sections, 7s. doz.—DEAN, Bower Vale, Epping. v 98

EXTRACTED HONEY, of fine quality.—1½ cwt. for Sale; Sample if required; £2 16s. per cwt., carriage paid.—W. H. PAYTON, Council Schools, Glemsford, Suffolk. v 95

GRAND MINORCA cockerels, bred from prize winners, 3s. 6d. each.—F. W. GELDER, Sturton, Lincs. v 96

WELL-MADE double-walled hives, with strong, healthy Italian hybrid bees, for sale.—Write 13, The Circus, Greenwich. v 93

HEATHER SECTIONS.—6 doz. sections, or lots to suit purchasers.—Apply, GEO. DALE, North End, Northallerton. v 82

FOR SALE, the remaining Stocks (very strong and healthy) of large Apiary; also crates, supers, &c., including fifteen years' goodwill.—Particulars from T. R. A., c/o BEE JOURNAL Office. v 87

WANTED, few strong, healthy Stocks, in skeps, cheap for cash; or exchange incubator.—GRAHAM, 20, Maden-street, Accrington. v 86

OFFERS WANTED for about 10 doz. 1 lb. screw capped jars of splendid Honey; also 3 doz. sections.—WATSON, Grange-road, Crawley Down. v 85

SELL, two strong, healthy Stocks Bees, in standard frame hives, nearly new.—CHANTLER, Eastwell, Kent. v 89

HIVES, 7s. 6d., best value, for ten Standard frames, made by machinery, 9in. lift, roof, and porch, painted two coats 2s. 6d. extra.—COX, Smallbrook-street, Birmingham. v 88

LIGHT-COLOURED HONEY, in 14 lb. tins, 56s. cwt.; 1 cwt. second quality, 50s. cwt.—ARTHUR ADCOCK, Meldreth, Cambs. v 84

PURE LIGHT EXTRACTED HONEY, 28 lb. tins, 13s. 6d.; Sample, 3d.—HOPKINS, The Minnis Apiary, Swingfield, Dover. v 83

EXCELLENT LIGHT-COLOURED HONEY, 8s. 6d. per doz. 1 lb. jars, £4 16s. per gross to clear, carriage paid.—T. WELLS, Claudius-road, Colchester. v 94

ABOUT 1 cwt. very fine Heather Honey, at 7½d.; Clover, fine, at 6½d.—STOCKS, 44, Bentley-road, Doncaster. v 78

WANTED, to Rent, Cottage, Orchard, and Garden, for Bees and Poultry, in good bee country.—MOYLAN, North Hayling. v 77

COTTAGERS. — A Limited Number of Cottage Hives at 9s. 6d., carriage paid; with frames, metal ends, and sections, with starters. Write at once.—RANSOME, Hellingly, Sussex. v 81

HANDSOME, Hardy, and Useful Varieties of Poultry, Buff Orpingtons (Cook's and Wilkinson's strains), Silver-pencilled Wyandottes (Wharton's pullet-bred strain), Black Leghorns (Sturges' and Proud's strains); my breeding pens are made up with typical specimens, all of which are tested winter layers; eggs, 3s. 6d. doz., returned unfertiles replaced.—A. E. YOUNG, Picton, Yarm, Yorks. v 80

SPLENDID LIGHT CLOVER HONEY, 6d. lb.; Sample, 3d. Quotations for bulk.—ALBERT COE, Apiary Hall, Ridgewell, Halstead, Essex. v 79

AS EXHIBITED at 1906 Dairy Show, Islington, Tilley's patent "Won't Leak" hermetically sealed 1 lb. Honey jars, filled with most delicious Granulated Honey, 1 1s. 4d., 2 2s. 6d., 12 10s.; packing and carriage included.—M. H. TILLEY, Bee Farm, Dorchester. v 90

EXCHANGE other Bee Journals for bound vols. after year 1889; also sell or exchange, second-hand Hives, healthy.—Full particulars, HERROD, Luton. v 91

Editorial, Notices, &c.

Obituary.

LORD THRING.

We regret to announce the death of Lord Thring, which occurred on February 4. His lordship, who had been ill for some time, was born at Alford, in Somerset, in 1818, and was one of the greatest law-makers of the nineteenth century. He was called to the Bar in 1845, was appointed counsel to the Home Office in 1860, and Parliamentary counsel in 1868, and on his retirement from office in 1886 he was created Baron Thring. He was educated at Shrewsbury and at Magdalene College, Cambridge, of which college he became an honorary fellow. Lord Thring was a most clever Parliamentary draftsman, and some of the most important Acts were drawn up by him. He achieved a great success in 1854 in framing the Merchant Shipping Act. The last seventeen years of his public service were a period of extraordinary legislative fertility. Lord Thring drafted the Bill for the Disestablishment of the Irish Church, which passed, and was a remarkable success, for, although full of intricacies, it has produced practically no litigation. Amongst the many Bills Lord Thring drew up his most remarkable achievement was the Reform Act of 1867, for, with the aid of only two shorthand clerks, he succeeded in completing the draft between Thursday and Saturday of one week. Modern company legislation is also largely due to his labours. He was engaged in preparing the Acts of 1856, 1857, 1858, and 1862, and also the Joint Stock Banking Companies Act, 1862.

In 1896 he took an interest in the Bee-Pest Bill, which the B.B.K.A. endeavoured to get taken up as a Government measure. This, as will be remembered, the Government were not prepared to do, and Lord Thring undertook to bring it forward in the House of Lords. He was Chairman of the County Councils' Association at the time, and through his influence and that of Sir John Hibbert that Association gave the Bill their support, and recommended the County Councils to do the same. He was, however, eventually obliged to drop the Bill on finding the opposition so great as to destroy any chance of its being passed. It is well known that the Bill promoted by the B.B.K.A. had his full approval, and he was satisfied that it would have accomplished its object.

His lordship had for some months before his death been gradually failing, and about a week ago his indisposition, which resulted rather from age than any specific disease, gave cause for some anxiety. He came from a long-lived family, for his father, the Rev. John Gale Thring, reached the age of 90, and his mother died in 1891 aged 101 years.

BRITISH BEE-KEEPERS' INSURANCE SCHEME.

CONDITIONS of the OPEN POLICY issued to the British Bee-keepers' Association by Messrs. Heath and others, underwriters at Lloyd's, for the period from 25th March, 1907, to 25th March, 1908.

The Policy is to indemnify the Owners of Bee Hives insuring under the British Bee-keepers' Association Scheme against their liability to third parties for damages to persons or property occasioned by Bees from the insured Apiary outside such Apiary, such claim in any one year not to exceed the sum of £30 in the aggregate, and not to include any claim for injury to the Assured, or persons, or live stock under his control. The Policy covers the period from 25th March, 1907, to 25th March, 1908, only.

The Policy will not come into force with regard to any intending Insurer until his or her Premium has been received and accepted by the B.B.K.A.

If the Assured shall increase the number of Hives kept beyond the number covered by the premium paid, the Assured will only recover such proportion of the amount of any claim as the number of Hives paid for bears to the number of Hives in the Apiary at the date of the injury being sustained.

It is a condition precedent to any claim that in the event of injury caused by Bees from the Insured Apiary, notice thereof shall have been given by the Assured in writing to the B.B.K.A., at its Office, 12, Hanover Square, London, within seven days from the date of such injury, together with full particulars of the nature of such injury, and its causes, and, further, that no liability to third parties shall be admitted by the Assured without the written consent of the B.B.K.A.

DEFINITION.—By "Apiary" is understood that portion of ground set apart for the accommodation of the Bee Hives.

Premium: One Penny per Hive on the maximum number of Hives kept; **minimum premium, 9d.** Non-members of the British Bee-keepers' Association, or its Affiliated Associations, to pay a Registration Fee of 6d. in addition. Premiums payable by members of the B.B.K. Association, or by non-members of any Association affiliated thereto, must be sent to the Secretary, B.B.K.A., 12, Hanover Square, London, W.

Premiums payable by members of affiliated County Associations who are not

members of the B.B.K.A. must be sent to the Secretary of such affiliated Association.

[We may draw the special attention of insurers to the increase of minimum premium from 6d. to 9d.—EDS.]

DR. G. D. HAVILAND.

The following report of a case brought before the Court of King's Bench last week will possess a melancholy interest for our older readers who knew Dr. Haviland well, and held him in the highest esteem, both personally and as an enthusiastic bee-keeper and liberal supporter of the craft. It appears in the *Times* of February 5.

IN THE GOODS OF G. D. HAVILAND—PRESUMED DECEASED.

This was an application for leave to swear the death of George Darby Haviland.

Mr. Willock said that Mr. George Darby Haviland was a bachelor of medicine, a naturalist, and a gentleman of private means, and in 1900 was staying with his brother at Slievyre, near Estcourt, Natal. One morning in July of that year he left Slievyre alone, taking with him his bicycle and a knapsack; and it was believed that he went on an expedition to the hill country near Colenso, since which date no authentic news of him had been received. In August, 1902, his bicycle was found under a bush in an unfrequented spot in the Natal mountains. A reward was offered through the medium of native chiefs for information of Dr. Haviland, but without result. Dr. Haviland had been in the habit of corresponding with his relatives; but, as from the time of his departure from his brother's, that correspondence ceased, nor had he made any drafts on his bank account since July 4, 1900. Last year advertisements were inserted in London and South African papers, and elicited a reply from a Mr. Gordon, who wrote circumstantially stating that he had seen Dr. Haviland recently, and that he expected he would shortly hear from him from an address in Pietermaritzburg. Inquiries were made at that address, which proved to be a girls' school, and naturally those inquiries came to nothing. The estate amounted to about £14,000, and the last cheque drawn was in respect of the purchase of some bee-hives, as in July, 1900, Dr. Haviland entertained the idea of keeping bees in partnership with a gentleman in Natal. Mr. George Rose, who had supplied the bee-hives and other appliances, had written to the following effect:—"I do not know where I got the idea from now, but the conclusion we came to somehow was that soon after the arrival of the goods, and before he got them out of the depôt in fact, he was commandeered by the Boers, refused, and was shot." Dr. Haviland executed a will in 1898, by which he left his estate to his brothers and sisters.

The President, having perused the affidavits, gave leave to swear the death on or since July 6, 1900.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of January, 1907, was £811.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

****** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.***

NOTES BY THE WAY.

[6618.] Since my last notes the weather has been very keen and frosty, keeping the bees confined to their hives till the 9th inst., when the temperature rose to over 40 deg. in the shade, and the bright sunshine brought the bees out in thousands for a much-needed cleansing flight. Prior to this the intense cold had kept everything in a state of rest, except the "budding birds," as I usually term the finches. Ours is not a fruit-growing district, but the few trees we have are sadly stripped again of their buds already. I have shot a few bullfinches—which are the worst of all "budders"—but others come and take their place. Only those who have watched these birds on the trees picking off the buds in hundreds and dropping nine-tenths of them on the ground could believe the amount of destruction wrought by a few of these birds in a short time, and this year for the first time they have even attempted to peck out the buds of the cherry trees in my garden.

Sections and Separators.—With no wish to trench on our esteemed Editor's exclusive domain in the "Queries and Replies" column, I would beg to add a note of advice to beginners from an old hand. I often feel that many of my notes have become threadbare, till a query comes from some new bee-keeper who has not the advantage of referring to back volumes, in

which matters now enquired about have been fully elucidated. This must be my excuse for the repetition of facts well known to older readers. Let me, then, say that with regard to sections I have used nearly every style and size, from the four-piece (nailed) of the 'seventies to the no-bee-way of to-day, and am now absolutely wedded to the $4\frac{1}{4}$ by $4\frac{1}{4}$ by $1\frac{5}{16}$ two-bee-way section, and also to the thinnest metal-slotted dividers. My sections are worked in racks, and they stand on wood slats at the bottom. My racks are made so that three sections across just fit in the space, thus ensuring that when filled and sealed the sections shall all be *exactly square*. The slotted divider gives access to each row of sections, while at the end of all I use the ordinary "follower"—*i.e.*, a piece of wood made to fit the end of rack. A wedge of wood is then used to force the sections tightly up together. Then if all this is properly done no trouble, such as forcing sections out of square, follows when tiering up the supers, either on the hive or in the store-room.

I prefer the two-bee-way sections, because the two sides make a good bearing for the glass when glazing comb-honey for market. I have worked thousands of the two kinds of sections side by side, four-bee-way and two-bee-way, and could never see any advantage in one over the other. I have also used slotted dividers, and the wire dividers for which so many advantages were claimed, but which were found wanting.—W. Woodley, Beedon, Newbury.

WILL BEE-KEEPING CEASE TO PAY?

[6619.] On pages 38 and 47 (B.B.J., January 24 and 31 respectively) there appeared two letters on the above subject, and no doubt at the present time the question of the price of honey, and its bearing on the financial result of bee-keeping as a profitable pursuit, is agitating the minds of many. That the market for honey is "strictly limited" seems to be the general belief of a large body of bee-keepers; but this is only true in part, and the statement of your correspondent Mr. T. W. Swabey (page 47) that he "does not think its value would be appreciably enhanced even if the number of bee-keepers were *divided* instead of *multiplied by three*," is, I think, contrary to the experience of most of the experts occupying similar positions to his. In those districts where little sale for honey can be found, even at a very low price, the fault generally lies with the producers themselves. They spoil the market not only for themselves, but for more enterprising bee-men as well, by putting quantities of honey on the market before it is fit, and present it to the public in such a dirty and altogether nauseating condition that the wonder is they ever sell any at all.

Here in Cumberland, in common with other counties, we have had, owing more or less to the teaching of the B.B.K.A., a large increase of bee-keepers, and a corresponding increase in the production of honey. The sales have also increased to a very great extent, and naturally the price has fallen. As with other articles, the fall in price is most marked on inferior samples.

But the fall in price of honey does not necessarily mean less profit from its production, because honey is now produced at much less cost in labour than heretofore, owing to the improved methods adopted, which enable apiarians to keep more bees, and also to harvest a greater amount of surplus from each hive than formerly. Added to this, the competition in the appliance trade has appreciably cheapened the bee-keeper's "gear," so that apiaries are established and worked at a considerable reduction in cost compared with a few years ago.

In purely agricultural districts, where bee-keeping can be carried on most successfully, the number of bee-keepers a few years ago was extremely small compared with the present time. Their surplus honey, too, was many times less in quantity than it is now, and at the weekly market it was generally sold readily at a good price, along with such things as butter and eggs, direct to local consumers. In such districts the supply now often exceeds the demand, and, owing to lack of suitable methods of transmission to more favourable centres, honey becomes almost unsaleable, and in consequence the local market is glutted, while within a few hours' journey, or less, by rail a ready sale could be ensured at a paying price. But either the risk of sending honey by rail, want of enterprise in seeking a fresh market, or the lack of time to do so, on the part of bee-keepers who are otherwise occupied, decides them to go on as usual and sell their honey for what it will fetch, often half the value of it elsewhere. Then, of course, "bee-keeping ceases to pay."

Honey as an article of food is gaining in popularity. There are not wanting signs in proof of this. But it must be placed on the market at a price which will compete successfully with other things of a like nature. Bee-keepers must, therefore, in their own interests adopt all methods they can to cheapen the cost, and at the same time increase the ratio of production. They must also, above all things, place their honey before the public in its most attractive form, and see that it is exposed for sale where there are to be found customers for that particular class of produce.—G. W. Avery, Armathwaite, R.S.O., Cumberland, February 4.

SIZE OF BROOD-FRAMES.

DEBATABLE GROUND.

[6620.] In former years the quiet season, so-called, was generally enlivened by the advocates of change assailing the B.B.K.A. standard frame. Nowadays, however, but little ink is shed in attack or defence of our old friend. While disclaiming any revolutionary intentions, I have worked frames both deep and shallow, and curiously enough the two stocks I had on non-standard frames last season were the most productive, giving over 270 lb. surplus honey, and increasing to five powerful colonies. The one on 6½-in. shallow-frames did comparatively best. By judicious dividing previous to the honey-flow it was increased to three stocks, giving over 1 cwt. of comb-honey, the crop from parent-hive alone realising £1 18s. This shows that, given a favourable season, it is quite possible to turn a good stock into three, and at the same time, as in the above case, secure honey to the value of over £4. I consider these shallow hives with close-ended frames very suitable for the production of heather-honey, and have now four of them to compare with the standard type during 1907. The large frame-hive was a bit disappointing, the total surplus (160 lb.), although my best, being much below what I expected from the almost incredibly vast population produced by an extra prolific queen. I credit the shortage to excessive brood-rearing, and in future will be less chary of using excluder to keep such energetic queens within bounds once honey-storing has begun. Above all, the large frame-stock, although the most populous, made a very poor show at the heather, and this finally decided me to confine my further experiments with large brood-frames to one hive only.

Alien Bees.—The foreigners are but little known hereabout, and although a local bee-keeper is credited with introducing Italians at some remote date, it was not so much to get new blood into the home variety as to keep trespassers out of his garden. These particular bees, being of the true fighting strain—the sort that hang out for hours at a time seeking trouble—gave short shrift to all intruders, not excepting the hapless owner. My own experience of Italians has ranged from bees that could be handled like flies to others that were extremely vicious, although fortunately not so bad as the above-mentioned guardians of the peace (?). Queer how such bees find out the weak place in our armour. Bee-men who forgetfully manipulate in low-heeled shoes afterwards sadly tell us how the bees touched the "spot" where, Achilles-like, they were most vulnerable; while those who, like myself, affect knicker-bockers don't need to be told how it feels to have bees innumerable commit "hari-kari" on one's shins.

The more sober-coloured Carniolans must be credited with a most benign disposition that permits of their being handled without the aid of either offensive or defensive armour, while even the removal of their hard-earned treasure-trove leaves them calm. There is no need, however, to make out a case for the grey bees on mere negative virtues alone. I find them very industrious and first-class gatherers, while their section-honey is remarkably well finished, and almost free from propolis. But the determination to increase and multiply is ever in evidence, and of the three swarms I had last season two were contributed by the Carniolans. This is, I think, their only fault, while Italians on the other hand are of a distinctly non-swarming nature, and also excellent honey-gatherers, but in many cases inclined to crossness, and until this tendency is eliminated the golden bees, for all their beauty, must be regarded as insects productive of more pain than pleasure.—J. M. Ellis, Ussie Valley, February 7.

FOUL BROOD.

PRESERVING AFFECTED COMBS FOR USE

Without the Aid of Medicinal Agents.

[6621.] Can combs with foul brood strongly in evidence be saved for future use? I should say certainly, because in practice many hundreds of such diseased combs have been preserved to do service for years in succession. Combs once almost rotten with the bee-pest have in a great many cases been cured where no medicinal application whatever has been adopted. The permanent cure of diseased stocks has generally been effected by vital force, heavy honey-flows, and not least by vigorous strains of bees. In some instances, however, combs that had been through foul hives have been cured by non-medicinal treatment while free from bees.

In the year 1883 I had a colony with its combs badly diseased towards August. Presently the weather became very warm for several weeks, and a large area of sainfoin near the apiary came into bloom, being the second crop. The result was, with no other treatment beyond the enormous energy then developed, that stock completely cured itself, and those combs did not again at any time show signs of disease. This was the first case of the kind, with a queen presiding, that I had seen so cured, but I have since had other similar permanent cures come under my notice. Other apiarists have had experiences of this kind, resulting in undoubted cures, as the combs remained clean year after year.

At a Bee-keepers' Convention held in Melbourne some ten years ago black bees, such as the members had used, were condemned as being more subject to disease (vide *Australian Bee Bulletin*). Mr. W. Lymes said, "Since he had introduced Italian bees the disease had gradually disappeared, and now ceased to trouble him." Other experiences were mentioned at the Convention, all showing that with the right kind of bees, and heavy honey-flows, the complaint soon ceased.

This does not imply that any other hardy variety, pure or hybridised, would not have done better than the black bees used by these Australian bee-keepers. Even in this country the usual dark hybrid, erroneously considered as being the native variety, is entirely different in energy and honey-gathering qualities from the original native, which is only now to be found in the most isolated and distant spots, where it is immediately out-matched by Italians or Carniolans when the latter are introduced for the first time.

Having seen that some stocks with their combs badly diseased can overthrow the foe when their vitality is raised to the highest point, so that the said combs remain permanently cured, it may also be of interest if we consider the case of combs being freed from the same disease germs when they are not in use by the bees, and without using antiseptics. The result may in some measure show why the bees are themselves able to conquer the plague under certain favourable conditions.

About the year 1870 "A Lanarkshire Bee-keeper," a writer of acknowledged practical experience, cured foul-broody combs in a novel manner. He did not hesitate to use again combs which had passed through a diseased hive. When free from liquid stores he placed them in a slow oven for several hours. Of course, the heat was not sufficient to melt the wax, and probably the combs were well matured and tough. His experience was published in the British Bee Journal, June 1, 1876, and he stated he had used such combs for eight or nine years after such treatment, during which period they had remained perfectly clean.

A most interesting and instructive treatise by Mr. T. J. Burrill was published in the *American Bee Journal* (1885) and reproduced in the British Bee Journal. While acknowledging that no extent of cold will kill the spores, that boiling may with difficulty do so, he stated that when diluted with water and placed in the temperature of an ordinary living room, *they perish in less than six months!* Mr. Burrill also showed that the organisms of foul brood when not advanced to spores will be destroyed (when so diluted) by simply drying in the sun for a few days. The average temperature of a living room might be 65 deg.; then how much sooner may not the few remaining spores perish at 95 deg. in the hive of energetic bees that had already cleared away every visible sign of the diseased matter.

Does not this all point to the conclusion, under favourable conditions, when no further development of the malady is taking place, that with heat and vital force predominant, it is only a matter of a given period when the already retreating elements of disease will have finally disappeared under a simply natural process? Results have long since confirmed this in my own experience.

Under the conditions referred to the bees clear out the bulk of the foul matter exactly where it had been most deeply rooted, and by the presence of clean brood in the once putrid cells, it is evident they clean thoroughly as they go; but it is only the strong colony that will so clear right to the outer combs. Where there are any germs in the honey they are very few indeed, and Mr. Burrill's experiments show what will become of them when diluted, not in warm water this time, but in warm honey, which itself is often a strong antiseptic. The conclusion I have arrived at is that while a short period of heat at boiling point may fail to destroy the spores of foul brood, there is no reason whatever why a more protracted term at blood temperature should not bring about the end of their existence where further propagation is out of the question. —Samuel Simmins, Broomham, Heathfield, February 8.

KEEPING BEES NEAR HOUSES.

[6622.] As I am writing for information in your query and reply column, I should like to give my views and experience of keeping bees near the house. First, however, let me say had the article in B.B.J. of January 31 (6602) been written before August, 1905, it would certainly have been the means of depriving me of the fine stocks of bees I now own, and which are a source of never-ending interest to me, as I am sure the article referred to would have put me in such a state of mind for the safety of my neighbours and my own people that I should never have started bee-keeping at all, as I had about 35 ft. by 18 ft. of garden attached to my house in the well-built-upon district of Brockley, with neighbours back, front, and both sides of me, each having the same extent of garden, ground, and children playing in all. I had never handled bees in my life, and only seen them handled a few weeks before starting as a bee-keeper. You will therefore understand what is meant by the above remarks. For the benefit of those living in similar surround-

ings to myself, I may say that up to September, 1906, the only trouble I had (after working tactfully) was in advising neighbours who wished to start themselves, and asking permission to come and see me handle the bees, which I found great delight in doing. I also had children from a school near by (who had heard of my bees from their teacher) coming to ask if they might stand by a little fence about 8 ft. from the hives to see the bees going in and out carrying pollen. Yet among all this the only ones who ever got stung were myself and the cat (who wanted to play with the bees).

I am this year assisting several of my late neighbours at Brockley, with whom I might never have got on but for the bees. In addition, I am helping a new neighbour (whose acquaintance I have made since coming to reside at Peckham four months ago) in the art of bee-keeping, as far as my knowledge will allow me, and I am hoping to enlist more recruits in the ranks of bee-keepers during the coming season. I may also mention another case of back-yard bee-keeping, in which the owner of a couple of stocks, not having room for the hives in the small yard a few feet square attached to his house, put them on the cistern under his bedroom window. This was only about 6 ft. from a busy street with children playing about continually, and never a complaint, though bees were kept in the same place for eighteen or twenty years. Therefore my advice is if you want to keep bees peacefully and successfully interest your neighbours in them. This has been my own plan, and it has not been found a hard matter to do. I always handle the bees very carefully, and at such times as your splendid little "Guide Book" tells us, and I am hoping the day may arrive when we shall have a district B.K.A. in or near Peckham. I should be only too pleased to assist anyone located in this neighbourhood who thought of making a start with bees, or who would like to see my hives, and gladly afford any advice and help I could give them. It is by assisting one another that we gain knowledge ourselves.—Arthur J. Easto, Rye Hill Park, Peckham Rye, S.E.

BIRDS AND BEES.

6623.] I am very pleased to see Mr. Woodley's good word for the tits (page 43). We have a large number of the pretty little blue tit in our neighbourhood, and also a few of the more timid larger tit. In the summer-time it seems the favourite habitat of the blue tit is high up in the branches of the trees. But in the winter-time it is very often seen about the house and near the apiary, where, very likely, when food is scarce, it picks up dead and dying bees. We have made a custom these few years past of hanging a piece of fat bacon on a tree in front of our window, and it is a constant source of pleasure to see these little birds coming daily to peck at the fat, which they seem to enjoy very much. I would not think of killing such harmless, beautiful creatures. — Lancelot Quayle, Glenmay, Isle of Man.

PRESERVATIVES FOR HIVE-WOOD.

[6624.] Perhaps my experience of over fifty years with paint as a wood-preservative may be useful to readers of the B.B.J. I may, therefore, say the ordinary house-painter will always thin his paint with "turps," his reason for doing so being that "it lays on so much better." But my experience has convinced me that in the hot sun the paint cracks—possibly only on the surface—and if rubbed with the hand it comes off like whitewash. On the other hand, if best genuine white lead of first quality and seasoned linseed oil of good quality, with equally good "driers," only are used in mixing, we have a durable paint for our hives that will last eight or ten years without their needing to be repainted. The paint so made covers far more surface and lays on more evenly than the ready-mixed tinned paints, so much of which is adulterated, chiefly with sulphate of barytes. For bee-keepers' use, then, I maintain that the best goes farthest, is most durable, and is the cheapest in the end. That, at least, is my experience.

Coverings for Hive-Roofs.—When zinc is used there should be several thicknesses of sacking or felt between the boards and zinc. This, along with plenty of quilts, and a space of at least 6 in. between roof and tops of frames (or tops of supers, as the case may be), enables me to secure a comparatively cool temperature under zinc-covered roofs, even when the zinc is too hot to bear the hand on, and *vice versâ* in cold weather.—A. H., Wavendon, February 9.

TITS AND BEES.

[6625.] Allow me to recommend the following plan as an effective means of stopping the depredations of tits in carrying off bees:—Place a section (two or four bee-way) flat down in front of and within ½ in. of the hive entrance, and cover with a piece of glass or wood. This forms a small porch, into which the bees can come to investigate when Mr. "Tit" taps at the door. Any dead bees carried out are generally left inside the section, so that the bee-keeper can dispose of them in such a way that the birds are not tempted to

come about the hive entrances. Trusting the above suggestion may be of use to some, I send name and sign—A. F., Argyll, N.B.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Brood Diseases (page 41).—Still this dispute as to the identity of the American and European disease. It is about as absurd to call black brood European as it would be to style a "coloured gentleman" an Englishman! Naturalisation, however, seems to be in process. "F.B." has won its spurs over here, and is almost beyond challenge by the black rooster. But, if not, then let them be matched in a hive, and fight it out on the carpet! A main! A main!!

Saprophytic (page 41).—Another hard word! For the benefit of those who do not know, may I say that it refers to those special bacteria or plants which live upon decaying vegetable matter, as opposed to pathogenetic or disease-producing organisms? By the way, it is pronounced Sap'-ro-phy'-tic. I looked this up in the dictionary, too!

Vertical Cells (page 46).—It is interesting to think that the atmospheric pressure is responsible for the maintenance of position of the queen larva; but is it true? Is not the viscosity and capillary attraction of the food responsible? Is it suggested that if the cells were canted the little wasps would roll out?

Wintering Nuclei (page 48).—"A box 8 in. by 4½ in. by 4½ in." just holds the four sections, with not much over. These four sections are to weigh from "four to five pounds," so they will be fairly well filled. Yet "two quarts of bees" are to get inside, "with a queen"! Great Scot! Poor queen! She *would* have to tuck up her petticoats!

"Scrub Stock" (page 52).—What percentage of the queens on this side "want killing"? There is certainly a good deal of "scrub," but the blacks have not suffered from the epidemic of over-rearing that has overtaken the Italian variety in America. The demand seems to have forced the breeders to send out all and every queen at disposal. Not that there is no honest attempt at selection, but it is entirely insufficient. To some extent the responsibility for this rests with the purchaser. The cost of selection must be paid for by him, and it is difficult to persuade the buyer of the necessity for a fair price for a good queen, especially in face of the cheap queens offered by all and sundry. "D. M. M.'s" comments and Mr. Sladen's recent article should be re-read by those interested.

Hiving Experience (page 56).—That is a good idea to use a broom to throw the water. But how did those bees know their way about so well? Hived late overnight, off next morning over the hill, "back in a few minutes," and in at the right front door. Was the queen a young one, or simply flighty? She seems to have been at her old tricks the following year. What are the "inherent qualities" of her bees which will make the wax melt? Are they a particularly "hot lot"?

Centigrade (page 56).—It may be interesting to give the method by which this is resolved into Fahrenheit. The C. degrees are multiplied by 9, divided by 5, and added to 32 deg. Your correspondent does not arrive at my figures exactly, but I should not like to dispute the "point."

Hive Preservatives.—Is it possible that the coal-tar derivatives may be slightly antiseptic? Honey is, however, only too easily tainted, and the repeated warnings are necessary. Of course, these things are all right for "hen runs" (No. 6615); but even if the cells are not distasteful to the queen hens, and the eggs do not taint, an overdose might result in the latter reaching the table tarred and feathered!

Euralite (page 58).—This material is, I think, rather fragile for rough-and-tumble wear. The hives in question are beautifully made, and are protected at the corners by sheet metal strips screwed through to the wood framing, thus covering the joints. A wooden hive lined at the ends, and with two dummies of the substance, might be ideal. It would be interesting to make a comparative max.-min. thermometric test of these hives during the rest of the winter.

Sponges for Combs (page 58).—The only other provision this "Midland Bee-keeper" should make for his bees is boot-jacks for tooth-brushes! But, seriously, how conservative our Editors are! Here is a good idea, and they pour cold water, probably for the only reason that it is the usual treatment of a sponge! Think of the advantages. Just wring the honey out, and, in case of F.B., rinse in Izal and cod-liver oil!

Echo from Lancaster (page 59).—What were those bees doing on New Year's Day? See the maximum in the weather report on the same page. My own maximum was 46 deg. Is it possible that they were still keeping Christmas?

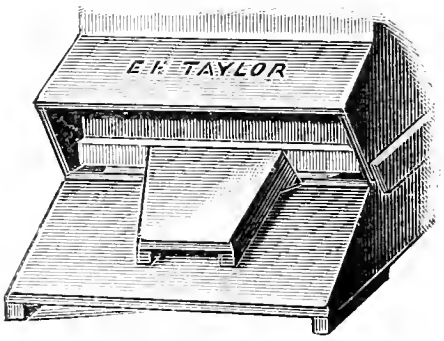
NOVELTIES FOR 1907.

THE "SILVER" ENTRANCE FOR HIVES.

Mr. E. H. Taylor, Welwyn, sends us a sample of the little appliance illustrated on next page, which he has just introduced to the notice of bee-keepers as a

"novelty for 1907," after trial in his own apiary at Welwyn last season.

The inventor, Mr. John Silver, Croydon, is a young bee-keeper of the progressive school, and claims that his device serves a double purpose; first, it keeps the bees



indoors on sunny days in early spring, when snow is on the ground, and second, by shading the entrance on cold, windy days the bees are not tempted to take long flights outside from which they never return. "Spring dwindling" is mainly attributable to one or other of the above-mentioned causes, and is stated to be almost entirely prevented by using the device shown. The cost is trifling, and it will last a lifetime.

BEE-KEEPING IN CANADA.

SUCCESS IN MANITOBA.

Among those embryo industries that have been experimented with in quiet corners throughout various parts of Manitoba is that of bee-keeping and honey-production, and but little is known generally of the great success attained. As far back as twenty-five or thirty years ago there was in the country a number of votaries of this interesting and profitable industry. In different parts of the Province since then there have been many experiments with different degrees of success, according to the competence of the experimenters and the favourableness or unfavourableness of local conditions. In the majority of cases, wherever the locality was at all suitable and the proper care and skill were brought to bear on the manipulation of the busy little workers, the success attained was very satisfactory. In some cases the success of these experiments was so pronounced and gratifying that from a solitary hive in a few years was built up apiaries consisting of 100 and 200 hives, and honey-crops were harvested weighing up in the thousands of pounds. In this way the industry has been growing and gaining ground until at the present time there is a sporadic industry in honey-production being carried on throughout the Province that has already gone beyond the experimental stage, and is even now beginning to take its place among the established economic institutions of the country.

With regard to yield and quality, the Manitoba apiarist will stand on a fairly equal footing with the followers of this industry in other parts; in fact, honey raised in Manitoba will suffer no disadvantage from comparison with honey of the same grade brought into the country from the East. The question of yield or quantity is, so far as experience goes at present, equally satisfactory. For the present season the honey-crop has been light, but proportionately much better than in Ontario. In a good year a Manitoba apiary can be counted on to give at least 100 lb. of honey per hive, spring count, besides doubling itself in the number of colonies. In a number of instances, indeed, that have come under notice, considerably better than this has been done, as, for example, Mr. Brandow, of Selkirk, last summer, from eight hives, spring count, obtained 100 lb. of comb and 840 lb. of extracted honey, his eight hives at the same time increasing to 29. In a case like this, had swarming been prevented, as it is in many eastern apiaries, the honey-crop would probably have been about double the amount mentioned.

Speaking in general, the honey-yield in Manitoba, taking it one year with another, is quite as satisfactory as in many other places where bee-keeping is recognised as a well-established and profitable industry. It can be said with perfect safety that the loss in wintering in Manitoba is considerably less than in Ontario or other places where the climate is milder. For this there are several quite sufficient reasons. The first of these is that our winters are not damp, and damp is one of the most deadly enemies of bees, especially in the hibernating condition. The second reason is that bees in Manitoba have been so far almost entirely exempt from the various diseases, such as dysentery, bee-moth, &c., that work such terrible havoc among wintering apiaries in the East. In 20 years' experience with bees in Manitoba, not a single case of the latter of these diseases has been known, winter or summer. Nothing is known of the diseases that sometimes exterminate whole apiaries in the East. The winter loss, with any ordinary care, is practically nothing, and the extra trouble in wintering will be found no barrier to the profitable handling of quite extensive apiaries. — *Canadian Gazette*, January 31.

Queries and Replies.

[3462.] *A Beginner's Queries.*—I have been a subscriber to your journal for some time, and although I have four hives in my orchard, I have not taken any practical interest in them. Unfortunately, the attendant to whom I left this matter has disappeared, and I feel it my duty to the bees to make enquiries as to what I should do for the welfare of the colonies. Without unduly disturbing them, I have ascertained that the bees appear to be alive and strong. I shall be glad, therefore, if you will be so good as to help me with your advice on the following points:—1. My attendant informed me that they had plenty of honey to last them through the winter. Notwithstanding, should I feed the bees with syrup? 2. Would it be inadvisable to take out the brood-frames and examine minutely the condition of each colony this cold weather? If so, when should it be done? 3. The queens (if still alive) have been heading these colonies for over two years. Would it be now advisable for me to introduce new and young queens? If so, where can I purchase them, and when should I introduce them? If you can help me in my trouble I shall be much obliged.—W. S. Shield, February 5.

Reply.—1. If the bees have plenty of food in store they are best left severely alone in February, particularly with regard to feeding. 2. To open hives and examine combs at this season would be the worst thing you could do, and only allowable at all in case of a particular hive showing no sign of bee-life on a day when the bees of others were flying freely. This they should do on bright days when the temperature stands at 50 to 60 deg. Fahr. 3. The fact of the bees of all the stocks being now "alive and strong" is presumptive evidence that the queens need no renewing; but this may be ascertained in mid-March by examining the frames to see how brood-rearing is progressing.

[3463.] *Dead Bees Cast Out in February—Moving Hives 200 yards.*—1. One of my stocks has been throwing out an extra lot of dead bees during the last week or so. I quite expected to find a good number of dead cast out at this time of the year, but fifty to a hundred each day seem to be too many, and I have wondered if all is well inside. The bees were well packed up for winter, and I left 30 lb. to 40 lb. of stores when closing them down in autumn. I should be obliged to hear if you think they are all right. If not, what had I better do under the circumstances? 2. Since last writing you I have found a place where I can stand a number of stocks of bees about 200 yards from my house, and as I have only been at my present address since September last, would it be safe to shift the stocks I already have to the spot here mentioned? It would be impossible to move them as in the "Guide Book" (a few feet at a time) in my case.—A. J. E., Peckham Rye, S.E., February 5.

Reply.—1. The probability is that a good number of bees have perished during the late severe frost, and the dead are being carried out gradually by their living comrades as a chance occurs. There is no need for serious alarm until an examination may be made of the hive's inside condition. 2. We advise moving the bees during the present cold weather, and so altering the appearance of the hive entrances as to give the bees some little trouble in getting out. This will cause them to note the change in location. A leafy branch of a tree laid across the flight-board will serve the purpose.

[3464.] *Honey from Hollow Trees as Bee Food.*—Kindly taste sample of honey sent, and say in B.B.J. if it is suitable for giving to the bees in the spring as food? I took it from a hollow elm-tree on December 31 last. There was about 60 lb. of it. The comb was pollen-clogged. I cut up the combs and placed them in front of a large fire to get the honey to run. I only started bee-keeping last year, and now have a dozen box-hives and about twenty skeps. I robbed the above-mentioned bee-tree for food to give to some driven bees, but feared it was affected with foul brood until I had your reply a few weeks ago.—F. Andrews, Norfolk, February 8.

Reply.—Sample of honey sent will do very well for use as bee-food in spring since you are safe from risk of its being from combs affected with foul brood.

[3465.] *Giving Candy in Winter.*—Would you kindly reply to the following query in your most interesting paper?—I have three stocks of bees, and have wintered them with the supers on, containing extracted sections. I therefore ask: 1. Would it be practical to place a cake of candy over the super? In other words, will the bees leave the cluster to reach the food placed above? 2. Should the candy be given now or later on?—Edwin A. Forster, Woolwich, February 9.

Reply.—1. Quite practical, but not at all advisable. The section-rack should be removed, and the candy be placed direct above the cluster of bees, close on the top-bars of brood-chamber. 2. If food is short candy must be given at once.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

J. CARVER (Wellington, Salop).—*Exhibitors' Grievances.*—We see no good that can possibly arise from the publication of our correspondent's long letter, even if it had been couched in terms suitable for publication, which it is not. Disappointed exhibitors (of whom Mr. Carver appears to be one) are not the wisest or best critics of judges' awards, and in proposing that judges should stay behind at shows after their none-too-easy task is over, in order to explain to a crowd of dissatisfied ones why they did not receive prizes, he is writing nonsense, and we have no room in our pages for the "full discussion" asked for. This is the least we can say in declining to print Mr. Carver's letter. On the other hand, we have no hesitation in replying to the query with which his letter concludes. He asks: "Do you think it right for a judge to refuse to discuss any of the awards he makes?" Our reply is yes, and we may add that after officiating as judge at important shows for the last twenty years we have always declined to discuss our awards with exhibitors, whether winners or losers. This rule is followed by judges at all important shows and exhibitions, and we fail to see why judges of honey should be placed on a different footing.

A. D. (Mexborough).—*Bees Dying in February.*—There is no disease in comb, which latter is very old and black. The bees appear to have been wintered on unsealed stores, and the severe weather of late has caused them to perish from cold. Food alone will not keep bees alive; they need to be sufficient in numbers for maintaining the necessary warmth to preserve life.

THANKFUL (Horsforth, Leeds).—*"Speckings" on Hives.*—1. The "little messes all over the hives," which you fear are caused through dysentery, are nothing beyond the speckings seen after bees have had a "cleansing flight" during winter. The wives of bee-men who own large apiaries are always chary of hanging clothes out to dry on sunny winter days coming at intervals, when bees have been confined for weeks in their hives. 2. The mildewed pollen in comb will do no harm beyond entailing much work to the bees in clearing it away. 3. The dead brood in other piece of comb has been chilled through the Arctic cold of the present winter.

J. S. (Larkhill).—*Bees Dying Off in February.*—Owing to insecure packing, your letter (put inside box) was indecipherable till washed, and bees sent were so soaked in liquid honey as to render examination impossible. We are therefore unable to form any idea of the cause of death.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

6 56 lb., 1s. 3d.; 6 28 lb. Honey Tins, 7½d.; Extractor, 19s.; 2 cwt. fine Honey, 6d.; all carriage paid.—JONES, 52, King-street, Wellington, Salop. w 16

BEE TENT FOR SALE, £5.—Address, BRERETON, Pulborough, Sussex. w 17

FOR SALE, 5 doz. well-filled Sections, from Clover and Sainfoin, in Lee's Imperial Section Cases.—Apply, E. PANKHURST, Ham House, Meopham. w 12

GOOD STOCKS, in Skeps, plenty stores, 1906 Queens, 12s. 6d., 13s. 6d.; Stocks, in Standard Frame Hives, from 25s., guaranteed healthy.—W. WOODS, Normandy, Guildford. w 13

AT BIDWELL, near Dunstable, Beds., on Feb. 21st, fifteen healthy Stocks of Bees will be put up for Auction, nine in Frame Hives, and six in Skeps; strong, well supplied with stores, empty hives, skeps, extractor, ripener, all accessories.—By order of F. SHARP. w 11

WILTSHIRE CLOVER HONEY, Extracted, 12 lb. 6s. 6d., 28 lb. 13s., 49s. cwt.—TUCK, grocer, East Knoyle, Wilts. w 10

BLACK MINORCAS, BUFF ORPINGTONS, 2s. 6d. sitting, unfertiles replaced; Incubator, 30-egg, sell, or exchange bees or appliances.—CHARTER, Tattingstone, Ipswich. w 14

CARBOLINEUM, the best preservative for Bee-Hives, Poultry-Houses, &c., 1s. 3d. per quart, 3s. 9d. per gallon; tins free, carriage paid; paints, &c., of best quality.—GURTH COOPER, 15, Cheapside, Derby. v 65

FOR SALE, a few Stocks of Healthy Bees, in Boxes, fixed Combs, 10s. each, carriage forward; or would exchange weighing machine, field glass, or anything useful.—THOMAS, Aberdur, Gellywen, St. Clears, S. Wales. w 6

FOR SALE, a quantity of Honey. — Apply, J. WEAVING, 27, Burford-road, Chipping Norton. w 9

FOR SALE, Freehold, a small Cottage, with half acre of ground, with Apiary of fourteen Stocks of Bees, in good Honey district in Hants.—Apply by letter only to Mr. H. NEWELL, Woodcroft, Andover Down, Andover. w 8

BUFF ORPINGTON COCKEREL, 5s.; Eggs, 2s. 6d.; White Wyandotte Cockerel, 4s.; Eggs, 2s. 6d.; Black Langshan Cock, 5s.—Rev. WOOD, Manningford Abbas Rectory, Pewsey. w 7

LIGHT-COLOURED HONEY, in bulk and 1 lb. screw jars, for sale, in quantities to suit purchasers; sample, 2d.; also 6 doz. well-filled sections.—Apply, HON. SEC., LINCS. B.K.A., Tothill, Alford. v 76

Editorial, Notices, &c.

DEALING WITH FOUL BROOD IN NEW ZEALAND.

We have received from the office of the High Commissioner for New Zealand, London, a copy of the Act of Parliament passed in October, 1906, for dealing with foul brood among bees in New Zealand, entitled "An Act to Encourage and Protect the Bee Industry in New Zealand," the full text of which is as follows:—

BE IT ENACTED by the General Assembly of New Zealand in Parliament assembled, and by the authority of the same, as follows:—

1. The Short Title of this Act is "The Apiaries Act, 1906."
2. In this Act, if not inconsistent with the context—
   "Apiary" means any place where one or more colonies of bees are kept;
   "Bee-keeper" means any person who keeps one or more colonies of bees or allows the same to be kept upon any land occupied by him;
   "Colony of bees" means a collection of honey-bees domiciled in any hive;
   "Disease" means foul brood (*Bacillus alvei*), bee-moths (*Galleria mellonella* and *Achroea grizzella*), and any other diseases or pests from time to time declared by the Governor in Council to be diseases;
   "Frame-hive" means a hive containing movable frames in which the combs are built so as to allow of their ready removal for examination;
   "Hive" means any box, basket, skep, barrel, or other receptacle in which a colony of bees is domiciled;
   "Inspector" means any person appointed by the Governor to carry out the provisions of this Act.
3. Every bee-keeper in whose apiary any disease appears shall, within seven days after first discovering or becoming aware of its presence, send written notice thereof to the Secretary for Agriculture at Wellington, or verbal notice to any Inspector of Stock.
4. The Governor may from time to time appoint such Inspectors and other officers, with such powers and functions, as he deems necessary in order to carry out the provisions of this Act.
5. The Inspector may enter upon any premises or buildings for the purpose of examining any bees, hives, or bee-appliances, and if the same are found to be affected with disease he may direct the treatment to be followed, and the time within which such treatment must be undertaken; or, if in his opinion the disease is too fully developed to be cured, he may direct the bee-keeper within a specified time to destroy by fire the bees, hives, and appliances so affected, or such portions thereof as he deems necessary.
6. Where bees affected by disease are domiciled in common boxes, box-hives, or any hive from which the bee-combs cannot readily be removed without cutting them, or, if already in frame-hives, the combs are not so built within frames that each comb can be removed from the hive separately and readily without cutting, for examination, the Inspector may direct the bee-keeper within a specified time to transfer such bees to frame-hives properly built as aforesaid.
7. (1) Every direction by an Inspector shall be in writing under his hand, and shall be either delivered to the bee-keeper personally or sent to him by letter addressed to him at his last-known place of abode. (2) Every such direction shall be faithfully complied with by the bee-keeper to whom it is addressed, and, in default of compliance within the time specified, the Inspector may at once destroy or cause to be destroyed by fire, at the expense of the bee-keeper, any bees, hives, and appliances found to be infected with disease.
8. No bee-keeper shall—
   (*a*) Keep or allow to be kept upon any land occupied by him any diseased bees, bee-combs, or infected hives or appliances without immediately taking the proper steps to cure the disease; or
   (*b*) Sell, barter, or give away any bees or honey from an infected apiary, or any appliances used in such apiary.
9. Every person is liable to a fine not exceeding ten pounds who—
   (*a*) Obstructs an Inspector in the exercise of his duties under this Act, or refuses to permit the destruction of infected bees and appliances;
   (*b*) Fails to comply with any direction of the Inspector;
   (*c*) Commits any other breach of this Act.
10. No person shall be entitled to compensation for anything lawfully done under this Act.
11. The Governor may from time to time, by Order in Council gazetted, declare any disease or pest affecting bees or apiaries (other than those mentioned in Section 2 hereof) to be a disease within the meaning of this Act.

CUMBERLAND B.K.A.

ANNUAL MEETING.

The C.B.K.A. held annual meetings at Carlisle and Whitehaven on January 26 and 31 respectively. There were present at Carlisle Dr. James Arnott (in the

chair), the Revs. B. G. R. Hale, D. R. Jones, and A. E. Palin, Colonel Blackett, Messrs. J. Stormonth, D. Bouch, H. Hutton, Ed. Muncaster, A. B. Bell, A. F. Helps, J. Stephenson, R. Bolt, G. W. Avery, M. Williams, J. Veitch, and G. M. Saunders (Hon. Sec.). At Whitehaven, the Rev. Canon Rawnsley in the chair, the attendance included Mrs. A. Leech, the Rev. W. Roberts, Messrs. H. Fox, J.P., T. Carey, C.C., A. Hutchinson, J. Williamson, H. H. Simpson, L. Bowman, J. Vickers, G. Phizacklea, I. Walker, and G. M. Saunders (Hon. Sec.). Several letters expressing regret for inability to attend were read.

The chairman at Carlisle referred to the loss the Association were sustaining in the departure from the county of their Hon. Sec., Mr. G. M. Saunders. Personally he was very sorry that Mr. Saunders was unable to offer himself for re-election. He became Hon. Sec. and Treasurer when their Association was in very low water, and mainly by his untiring exertions it had grown to its present state. He proposed a hearty vote of thanks to Mr. Saunders for his services.

Mr. A. F. Helps seconded, and the vote was carried *nem. con.*

At Whitehaven Canon Rawnsley, in somewhat similar terms, expressed their sincere regret that Mr. Saunders was leaving for the South of England. He had been unwearying in his exertions on behalf of the C.B.K.A. They began with a very small membership, and the Association now numbered over 600. This in itself was a matter of congratulation. He confessed, however, that by Mr. Saunders going away they would have harder times to face, especially as at the County Council meetings very few hands were held up in favour of voting money for bee-keeping. But he hoped that they would still have the benefit of his experience in Association affairs, and that the people of Cumberland would realise that the artisan and cottager class were helped by the keeping of bees.

Mr. Carey, in seconding the vote, said that mainly through the efforts of Mr. Saunders the C.B.K.A. is now well organised for future work, and it only needs liberal support from the County Council to maintain it as a successful Association in aiding bee-keepers and in suppressing foul brood in the county. The vote was carried unanimously.

In acknowledging the vote, Mr. Saunders expressed his regret at having to leave the Association through his health, but he thought it would go on exactly as before if the County Council would take it up and put it under the Higher Education Committee instead of the Agricultural Committee. The members of the latter were mainly farmers, and were not bee-keepers as a rule. As to his successor, he should be ready to give him all the assistance necessary. He thanked them all for their vote of thanks.

The Hon. Sec. then submitted the report and balance-sheet, which latter showed a balance in hand of £29 2s. 1d. Lord Muncaster was re-elected president, and the vice-presidents were also re-elected, Col. Blackett being added to the list. The Rev. Canon Rawnsley was re-elected chairman, with Mr. James Thompson as vice-chairman.

Mr. G. W. Avery was appointed Hon. Sec. and Treasurer, and Mr. Arthur B. Bell, of the Carlisle and Cumberland Bank, Hon. Auditor.

The Executive Council was elected as in 1906, Mr. J. Henry taking the place of Mr. Mossop. Messrs. J. Atkinson, W. Thompson, J. Stormonth, F. Waite, T. Rumney, and J. Satterthwaite were added to the list of Local Hon. Secs.

The experts, Messrs. Jos. Price and D. Bouch, were re-engaged, and the Hon. Sec. was instructed to engage two others for the spring tour of the county.

Various other matters were discussed, including a suggested scheme for forming a honey depot.

On the motion of Canon Rawnsley it was decided at Whitehaven to give the proposed scheme a trial.—G. W. AVERY, Hon. Sec. and Treasurer.

GLAMORGAN B.K.A.

ANNUAL MEETING.

The annual general meeting of the above Association was held on Saturday, February 9, at Bridgend Town Hall. Alderman T. J. Hughes presided over a large attendance.

In moving the adoption of the report and balance-sheet, the Chairman referred at length to the fascinating literature of bee-culture, commencing with Moses, and mentioned Aristotle, Pliny, Cato, and Swammerdam, who, through his invention of the microscope, first discovered the sex of the monarch of the hive. With reference to the report before them, it appeared that much progress in bee-keeping had been made since the Association's experts had been at work. He was glad to see that fifty-four new members had been enrolled in 1906. He only wished the Council's funds were all as well spent as was their grant to the society. Over 700 hives had been examined, and eighteen lectures with bees or lantern had been given in all parts of the county.

The receipts amounted to £164 3s. 4d., and there was a balance in hand of £9 15s. 1½d. The report and balance-sheet were adopted.

Votes of thanks were accorded to the

County Council for their grant of £75, and to the Cardiff and County Horticultural Society for a grant of four guineas, along with tents, tabling, &c., also to the officers for their past services.

The Right Hon. the Earl of Plymouth was re-elected President. The Vice-Presidents were re-elected en bloc.

Mr. Wm. Richards was again elected hon. secretary, Mr. John Jenkins, A.C.A., auditor, and Mr. W. T. Watkin Lewis, J.P., treasurer.

An Executive Committee of twelve persons, representing all portions of the county, was appointed.

A cordial vote of thanks to Alderman Hughes for so ably presiding was unanimously carried.

Through the kindness of S. H. Byass, Esq., J.P., refreshments were partaken of by the company, many of whom had come long distances to attend the meeting.

A short lecture (with lantern) was afterwards given by the hon. secretary on "Bees and Flowers." In this way a most successful and enjoyable afternoon was brought to a close.—WM. RICHARDS, hon. secretary, The Red House, Gabalfa, Cardiff.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the Literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "THE EDITORS of the 'British Bee Journal,' 8, Henrietta-street, Covent Garden, London, W.C." All business communications relating to advertisements, &c., must be addressed to "THE MANAGER, 'British Bee Journal' Office, 8, Henrietta-street, Covent Garden, London, W.C."

AMONG THE BEES.

"KEEP BEES"!

[6626.] The following story is interesting and instructive, and its lessons might be taken to heart by many:—A French bishop visiting his diocese was much troubled at the straitened circumstances of most of his clergy. Coming at last to the house of a curate in a poor part of the country, he was surprised to see evident signs of comfort and plenty. The good bishop was amazed, and exclaimed, "How is this? You are the first I have visited with a cheerful face and a plentiful board! Have you an independent income?" "Yes," was the reply, "and if you walk into my garden you will see the source of my prosperity." There he saw a long range of bee-hives, from whose harvest the curate reaped so bountiful a return. Ever afterwards, when any clergyman complained to the bishop of poverty, he would say to him, "Keep bees! Keep bees!"

A Cheap Swarm.—In the late Mr. Alfred Neighbour's work "The Apiary" I find the following good story, told to illustrate the ignorance of the general public in regard to bees:—A young gentleman from the North of England wrote: "Master —— presents his compliments to Messrs. Neighbour, and begs they will send him a good swarm of bees; he encloses six postage stamps, and hopes they will send him a good swarm." Still better was the postscript, "Please let it be fourpence if you can!"

From an Old Catalogue.—At the present time we hear complaints—and occasionally they are justifiable—that we are made to pay too high a price for hives and appliances. Contrasted, however, with the prices of fifty or sixty years ago ours are cheap, and, of course, there is no question that comfort and convenience are very much improved. Here are a few of the prices:—

Collateral hive and stand, £7 11s.
Improved box-hive and stand, £3 13s. 6d.
Eight-bar hive, £4 0s. 6d.
Cottagers' hive, £1 15s.
Ladies' hive, £2 5s.
Observatory hive, £3 3s.
"Unicomb" hive, £3 13s. 6d.

"A Gold Mine."—This is how the advent of the Ligurian bee in 1859 was hailed—like Hood's bees in "Miss Kilmansegg":

> A golden hive, on a golden bank,
> Where golden bees, by alchemical prank,
> Gather gold instead of honey—

Mr. Woodbury, Exeter, and Mr. Alfred Neighbour, London, according to the latter's account, took over the first consignment in July, 1859, and in that and subsequent years a great trade was carried on, while heavy prices were paid for these strangers, which were scattered broadcast over the length and breadth of the land. A great part of the money, however, must have been sunk in this trade by deluded or over-credulous bee-keepers, because we find even the chief importer admitting—"We regret to say that but few queens were successfully united to English stocks." I venture to say that this unremunerative trade has been going on ever since, and large sums might have been sunk into the sea as profitably as by being invested in this questionable undertaking, because still few good queens are "successfully united to English stocks."

At the Great Exhibition of 1862 Messrs. Neighbour exhibited a "Unicomb" observatory hive tenanted by Ligurian bees, and the display did a good deal to boom the new race. Our old friend, John Walton, once described how he saved up to be able

to purchase a queen, paying £4 for one. Many other working-men besides John invested part of their savings in the same way, some paying up to £6. No wonder Pettigrew in commenting on this said "People go mad for novelties."

Curing Robbing.—I do not give the following as a guaranteed cure. I simply pass it on as it was given me:—"To stop robber-bees from plundering, at night place a quantity of musk or other strong smelling substance in the hive. The unwonted odour works for good in two ways. It rouses up the home-bees, so that in the morning they will resolutely attack the robbers, and stubbornly defend their hives. Should any of these still force an entrance they will acquire the odour to such an extent that when they return home they will be treated as aliens from the commonwealth, and may even pay for their predaceous proceedings by suffering death at the hands of their own sisters."

Four Thousand Years Ago!—The Egyptians had a very high appreciation of the bee at a very early date. A poem still exists one of the lines of which, literally translated, reads thus: "As bees work by their labour," and something like this seems to have been a proverb in the country of the Pharaohs—an equivalent perhaps of our "As busy as a bee," "Veritable hives of industry," &c. The figure of the bee is found amongst very ancient hieroglyphics. Not only so, but the representation is generally given as if they had a thorough comprehension of a people governed by a monarch. The lid of an Egyptian coffin in the British Museum bears the figure of a bee, and the king who tenanted this narrow house lived over 1,000 years earlier than my heading implies. Honey was largely used as a medicine, and as a drink it figured in religious feasts. Fruits were preserved in honey, and Herodotus tells us that even dead bodies were preserved from decay by honey and wax. Later Hippocrates, the celebrated Greek physician, describes many preparations in which honey was an important ingredient, and he aseribed many healing virtues to its free use. Honey was used in making bread at least 700 B.C. Attic honey was highly esteemed if we may credit the following from Aristophanes: "In baking spare the Attic honey, which costs four crowns." Virgil describes it as "that gift from heaven, ethereal honey." The Book of Job mentions honey favourably, and Jacob nearly 4,000 years ago tells his sons to take a little honey as one of their presents to the lord of the country. Finally I may quote Democritus, who, when asked how he managed to live to become a centenarian, replied, "By the free use of honey." Being the sugar of the ancients, they valued it far more than we moderns do.—D. M. M., Banff.

OBSERVATORY HIVES.

A "UNICOMB" OBSERVATION-BOX.

[6627.] Owing to defective eyesight, inexperience, and difficulty in adjusting a frame of brood and eggs to suitable light for observation, I found diffieulty in determining the recently-laid egg stage and the age of larva in queen-raising, and, as chilled brood with its attendant evils should always be dreaded by the careful bee-keeper, I have designed an observatory hive (as shown in the enclosed sketch) which will, I think, prove advantageous in nearly all hive manipulations.

After turning back the quilts covering the top bars of frames, the one selected for observation can be easily and quickly removed from the hive to the observation-box, which at once releases both hands for subsequent manipulations, the first one being to return the quilts to their places, and so retain the natural heat of the hive without risk of brood chilling. The young larvæ in the observation-box are also preserved from a similar fate, being kept at the necessary temperature to that end by hot-water reservoirs of suitable shape, made of tin, copper, or earthenware. For prolonged observations a relay—or relays—of these vessels might be provided. Two miniature curtains of black cloth a little larger than the box tacked to the top, one for each side, that side under observation to be thrown back over the top, would help to retain the heat, whilst the other curtain hanging down the side not under observation would answer the same purpose, and at the same time act as a dark background, thus facilitating observation at the front side, which latter can be lighted up by a powerful bicycle lamp. This done, and the observer being furnished with a magnifying lens of suitable focal length, a searching, even microscopical, observation of that side of the frame could thus be made, and when completed a turn of the revolving reel and readjustment of the curtains would offer a full opportunity for searching the reversed side of the frame.

I have not previously seen or heard of any such manipulating contrivanee, so I offer it to your readers for what it may be worth, and for any suggestions from them for improvement in details. Its advantages, briefly summed up, are simplicity and effectiveness at little cost. For soft garden ground, a stout iron-shod stake, just long enough when firmly fixed in the ground to bring the observation-box on a level with the eye. (For hard ground a tripod eamera stand would answer well.) A small revolving garden line reel, firmly attached to the stake by three staples; a 2 in. wide by $\frac{5}{8}$ in. lath batten, attached to the top of the reel

(*Continued on page* 76.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

Beyond congratulating Mr. Wilkes on his plucky and successful combat with foul brood, we may let his useful notes speak for themselves. He says:—

"Compared with many readers whose apiaries have appeared in the B.B.J., I am a novice, having kept bees for five years only, and running fourteen stocks at present, but during this time I think I can claim to have had my share of the difficulties, disappointments, and pleasures which are the common lot of all. I began with three or four frames of bees, given me by a friend, which were duly fed up for winter. The following year the stock yielded no surplus save one section, contracted foul brood, and were consequently destroyed. The following winter I made two more hives, each holding fifteen frames, and purchased three stocks in spring; these gave me two swarms, one of which contracted foul brood. About this time I read of a well-known bee-keeper advertising *an absolute cure* for the disease, and tested it during the summer, only to find the number of diseased cells increased. I then tried the 'starvation cure'; this resulted in five frames of healthy but queenless bees in spring, which were robbed, and all stores purloined.

"At this stage I was advised to 'give it up,' but I believe difficulties are made to be overcome, so the following winter I made eight more hives, and finding my five stocks healthy and strong, thanks to medicated food, young queens, and constant watchfulness for the first stages of the disease, I have stamped it out. I now tried my hand at queen-rearing and increase. This gave me nine stocks, consisting of one Italian, two hybrids, and six blacks. These have given me five swarms, including a huge lot which covered sixteen frames and filled two skeps. I purpose this year trying Mr. Rymer's and our good friend 'D. M. M.'s' methods of checking swarming, which I hope will prove successful.

MR. ARTHUR H. WILKES'S APIARY, FOUR OAKS BIRMINGHAM.

"My greatest pleasure and recreation consists in attending to my garden and the bees and their requirements. I keep two hives purely for experimental purposes and studying the bees and their ways. In this way I have gained a good practical knowledge of apiculture, having digested all the bee literature I could get. I think Mr. Cowan's 'Guide Book' by far the best and most reliable work on the subject. I find it very interesting to arrange plants having a distinct contrast in colour near each other, allowing the bees to cross-fertilise them, and note the colour of seedlings the following year. In this way I have been successful in securing beautiful variations in colour of flowers, which

can be perpetuated by means of cuttings, so I mix my gardening with bee-keeping while the musical hum of the bees fills the air, knowing that each little labourer is working hard for my benefit, while providing for its own home-wants."

("*Observatory Hives*," *continued from page* 74.)

and to the bottom of the observation-box. The observation-box is simply and easily made of ½-in. hard wood with glass sides to slide into a ploughed groove at top and bottom. One side of the lower portion of observation-box to be made to slide its full length for the ready admittance and withdrawal of the hot-water reservoirs.

Thus equipped, to the novice the terrors of manipulation would vanish. To the expert it would offer facilities for more searching and exact observations, both in practical and scientific apiculture. Its universal and general use would practically stamp out chilled brood, which, being the most acceptable nidus for the germs of foul brood, would go far in checking its ravages, and so make bee-keeping more popular and profitable. I send name, &c., and sign—To Bee or Not to Bee, Chester-le-Street.

[We are very pleased to insert the views of our correspondent as being of general interest to readers, but with regard to sketch sent of the proposed "observation-box," it would be well if it were submitted to a practical bee-appliance maker, preferably Mr. Meadows, of Syston (as being an expert in the manufacture of such goods), so that the details could be clearly made out from a photo. It is also probable that considerable modifications in the appliance may be necessary after it has been submitted to a practical test for the intended purpose.—Eds.]

BEE NOTES FROM CORNWALL.

PRICE OF HONEY.

[6628.] Although I am sometimes in disagreement with other readers of the B.B.J. when writing on bee-subjects, I must ask them to acquit me of any personal feeling when such is the case, no matter how energetically I apply the literary sting to their views. We should find life very commonplace if diversity in views did not exist in all natural affairs, the human mind included.

As regards the price of honey, if we can by improved means produce 200 lb. of honey where 100 lb. was obtainable before, and still get no more for it than we formerly got for 100 lb., it follows, as a matter of course, that we have to work twice as hard for the same money. In other words, we have double the quantity of honey to deal with and find a market for. I do think that it is not at all an easy matter to sell honey if one has a large quantity on hand, no matter how carefully we prepare it for sale. Further, bee-keeping is a pursuit that requires a good margin of profit to meet bad seasons and other risks. I consider that sixpence per pound is about as little as will really prove remunerative, taking the average. The matter cannot be fairly judged from the occasional "record takes" that most bee-keepers get at times. The advertising pages of the B.B.J. plainly show that an immense quantity of honey remains unsold from last season; and, being in touch with many good bee-keepers, I know that they are beginning to feel where the shoe pinches. The question of marketing is of much importance to all. And I suppose we must accept the inevitable downward tendency, unless the consumption of our produce receives a stimulus; and I must say lower prices do not appear to do much by way of increasing the demand. Theoretically the dwellers in every county ought to be able to consume all the honey now produced in it; but I find it is very different in practice, and we have to send it to large centres, where there is an inevitable "slump" in prices.

I think Mr. Simmins's recent remarks on foul brood (pages 43 and 64 respectively) are very interesting. I suppose we may take it for granted that the cases of natural cure quoted by him are well authenticated, because, if this is so, and we could only find out the secret, it might be possible to produce such conditions as would ensure the regular good health of our bees. As Mr. Simmins says, temperature appears to have much to do with the life or death of the bacilli. It will be remembered that I have already raised the query, "Why does the bee-race continue to exist in spite of the persistence of its ancient enemy?" We cannot yet answer that question, but the facts point to some such cause as that mentioned above. These germs no doubt exist in millions in all the winds that blow, yet they do not affect all colonies, nor do disease-producing germs affect all human beings, though it is certain that we take in disease-producing germs of some kind every day. The Book of Nature has many leaves still uncut for those alive to-day.

I am able to put a feather in the cap of our much-abused Post Office. The Swarthmore Apiaries, Pa., U.S.A., were good enough to send a pamphlet to me, addressed "W. J. Farmer, Cornwall, England." The county of Cornwall is a fairly large place in which to find a single individual, though to our friends across the Atlantic,

accustomed to big things, it may be regarded as a mere parish. The packet, however, reached me not more than a post late.—W. J. FARMER, Cornwall.

TITS AND BEES.

[6629.] There seems to be some misunderstanding over these birds from the correspondence of late in the B.B.J. The small blue tit (locally called tom-tit) does not appear to take the bees alive or dead. It is the "black-cap" tit, the one with white face and about the size of the hedge-sparrow, that carries off the bees alive. I have seen the hive-tops and alighting-boards littered with hundreds of bees' heads on days when it was so cold that very few bees would venture out. These particular bee-killers appear in families of sometimes six or seven. I am quite aware that they take the larvæ of other insects. But they seem to make a speciality of bees just at the time of the year we are anxious to conserve them.

Keeping Bees near Dwelling-houses.—The chief point to be borne in mind appears to me to be that people will persist in striking at and buffeting the bees the instant they see one buzzing around them, instead of keeping still or moving quietly away. My own apiary is within a few feet of a couple of cottages, and has varied in numbers from 25 to over 50 stocks during the last eight years. Yet the tenants have never complained of the bees. It ought to be made known to strangers that bees will not be inclined to sting unless struck at, or, as it were, challenged, and even then they will not fight with their assailants when inside a closed room or building.—A. H., Wavendon, Bucks.

THE B.B.K.A. LIBRARY.

[6630.] Your kind footnote to my letter *re* the above in a previous issue, and the reply to another correspondent (page 50), have led me to again refer to this subject. The fact that members of the B.B.K.A. could have the free use of books (with few exceptions) on payment of postage was good news to me. I should like to know whether this has been taken advantage of by anyone outside the Council itself, because, if so, the library is conferring a real benefit on the members of the parent Association, and more than this cannot reasonably be expected. The officers and members of local associations affiliated with the B.B.K.A. might obtain the same advantages by paying the usual fee of membership to the latter. I believe if a catalogue of the books in the library was drawn up, printed, and sold to members, it would be most useful, as such a list would most probably include the titles of books on apiculture not generally known to bee-keepers, and who might then look them up in their local free libraries. For myself, I should very much like to see a list of the books not only for the above reason, but also that I might form some idea of the value of the library, seeing that in the balance-sheet issued, and duly audited, for 1905 no mention is made of this valuable asset of the B.B.K.A., and your remark that it "includes a few rare and valuable volumes impossible to replace" leads me to wonder how this valuable asset escaped the notice of the hon. auditor (Mr. J. Willard). I am a member of another association which possesses a law and circulating library. In their last balance-sheet the following items appear under the head of "assets":—

	£	s.	d.
Law library, as per last account	129	15	0
Since added	13	16	9
	143	11	9
Less depreciation, 10 per cent.	14	7	2
	129	4	7

The circulating library account is dealt with in the same business-like way, thus: Books and boxes, as per last account, £307 18s. 9d.; books since added, £16 0s. 5d. Total value, £323 19s. 2d. Then follows the sales account, less depreciation at 25 per cent. and net value at date. If the B.B.K.A. library was turned into a circulating library, and depreciated 25 per cent. a year, where would it be in four years? (Will Mr. Crawshaw put a "cap" on this query?) I have not yet seen the balance-sheet of the B.B.K.A. for 1906, as I suppose it has not yet been issued to the members, and perhaps it is not too late to have this item inserted.

Hiving Experiences.—In my letter (page 56) I omitted to mention the fact that I followed my old plan of hiving the first swarm on the old stand. I always do this with first swarms from straw skeps, and in most cases with those from frame-hives. Perhaps this explanation will replace the "capping" which the "Crawshaw" uncapping knife removed on page 67 of your last issue, and explain "how they knew their way about so well." I concluded that the queen was a virgin not only from the actions of the bees as described, but also from the fact that they clustered on the side of the hive. I have a habit of inspecting the hiving-skep before throwing out the bees in the evening in front of their permanent home, and if I see them clustered on the side of the skep, experience has taught me that it is a second swarm or cast, and has a

young queen; whilst if they hang from the centre of the top, it is a first swarm and has an old queen. The five frames were put in at right-angles to entrance, but the bees clustered on the side of the hive, where there were no frames.

Their "inherent qualities" are, in my judgment, somewhat like Mr. Crawshaw's interesting "Cappings" in your valuable paper, entirely devoid of venom when at work, though full of fire and life. What would happen to a molester if both were thoroughly roused might be somewhat akin to what would happen to a man who sat on the summit of a volcano at the moment of the eruption. He would disappear, I guess.—H. Samways, Maesybont, Llandebie, February 16.

Queries and Replies.

[3466.] *Moving Bees Twelve Miles by Rail.*—I have two stocks of bees in "W. B. C." hives, each lot being now on five or six frames, and I wish to move them a distance of about twelve miles by rail. 1. I shall be obliged if you will tell me the best time to move them, and also how I should pack them. I presume they ought to be moved either this month or next, when the weather may possibly be too cold for me to take off the quilts in order to fasten the frames down, &c. I therefore ask: 2. Should the whole of the quilts be removed while operating, even if it happens to be a very cold day when they are moved? At present the frames are covered with the ordinary quilts, and have a large bag of cork-dust over all, and the space between brood-chamber and outer-case is also filled in with cork-dust. 3. How would it be to fasten a sheet of perforated zinc securely over the entrance, but not touch the inside of the hive at all? Would the bees get too hot with all these coverings on, and would the frames be safe for travelling? I may say they are at present in the middle of the brood-chamber with a dummy on either side, and the space between dummy and side of brood-chamber is filled in with some loose woollen cloth and newspapers. The bag of cork-dust fills all the space between top of frames and roof quite tightly. I shall be greatly obliged if you will give me full instructions how to proceed, or else refer me to a back number of the B.B.J. in which I shall find the required information. 4. If I extract honey now, will the frames be quite all right if they are put away with honey wet about them as they come from the extractor? 5. Would you recommend me to leave the cork-dust now between brood-chambers and outer-cases in the above-mentioned hives during summer? I thought it might keep the inside temperature from varying so with sun heat. I send name and sign—Tamar Valley, February 14.

Reply.—1. The best time for moving in your case is the present. The distance is a short rail journey, and breeding will scarcely have begun, therefore if securely packed so that bees cannot escape all should go on well, especially if the hives travel in owner's charge, nor will there be any risk of overheating in present weather. 2. Beyond saying that the body-boxes must be securely fastened to floorboards with screws (not nails), we cannot give full instructions for packing in this column. It would take too much space. For this and other purposes connected with the bees you should have a "Guide Book," wherein will be found all the particulars asked for. 3. This plan would not do at all. 4. Honey-extracting is altogether unsuitable work for winter-time. 5. On no account must this be done. During hot weather all superfluous coverings are removed to prevent overheating and consequent swarming.

[3467.] *Bees Dying Off in February.*—Last June I purchased a strong stock of bees, which I put into a new hive. This was placed in a neighbour's garden about a quarter of a mile away. I allowed them to remain there until the hard weather had (as I thought) come to an end. On January 15 I carried the hive by hand carefully to my own garden, where the bees settled comfortably down. A week later I gave them a 2-lb. cake of candy, although they had stores on hand, and packed the top with four quilts and brown paper doubled on that. Following this, some days later we had another severe spell of cold, which terminated a week ago. On Saturday, February 9, noticing the bees of my other four hives all having a good fly and this one silent, I examined and found the doorway full of dead bees. I started with bent wire, as I always do to clear, and pulled out about a pint. But finding there were now a quantity of live ones issuing, and the day being cold, I left the examination till to-day (Monday, Feb. 11). I took out the six outside frames, which only had dead bees on, and found a small patch of brood sealed on one of them (showing they had a laying queen), also a small quantity of sealed honey on top. I had in all about a quart of dead bees, and as the four middle frames had a fair number of live ones under the candy, I did not disturb these, but pushed up division-boards, and packed again after clearing floor-board. I have sent you a fair number of the dead bees for inspection. Can you say what caused this mortality? Is it a common occurrence? Need I fear any disease? Also could I use the frames taken out? They are fully drawn out, and some

have a small quantity of sealed honey, not, however, worth extracting. Also if I find queen present in hive would you have her with the small lot of bees left? Are they worth preserving? She would be a second-season queen in her prime. Kindly advise a third-season—BEE ENTHUSIAST, Llanidloes, Montgomery.

REPLY.—Without being a "common occurrence," it too frequently happens that several seams of bees will get parted from the main cluster in such Arctic weather as we had a few weeks ago, and being unable to move through cold they perish. This is evidently what has happened in your case. There is no reason for fearing disease in this, and, if well cared for, the remaining bees may do fairly well in spite of the heavy mortality, as the strongest bees and queen will have survived, so they are well worth preserving. The removed frames can be given when more room is needed, as it will be when brood-rearing is in full swing.

[3468.] *Bees Deserting Hive in February.*—I should be extremely obliged if you would give me your opinion on the cause of the bees of one of my hives deserting their home. It is a single-walled hive, and I bought it as it stands on coming here last August. A few weeks ago my gardener noticed the bees of this and the three other hives near it busily flying in the sunshine. On Saturday last I noticed that no bees were visible at this particular hive, so I stripped the quilts off, and found only three dead worker-bees. Of the combs some were empty, but several had a considerable amount of stores, one comb being very heavy. The cells were mostly uncapped, but a considerable number were still capped over, and one of the combs had a great many wax-moth cocoons in it, but the other frames were free from them. I cannot imagine why the bees have gone, or what has become of them. I am enclosing a small piece of one comb for your inspection, as I am not sure about foul brood. I have for years been a reader of the BEE JOURNAL, but find it exceedingly difficult to procure it here. I have been very successful with my bees so far, but have no experience of a case like this, so should be much obliged if you could give me any help in the matter. Name sent for reference.—WORCESTERSHIRE, February 14.

REPLY.—The probability is that the stock had lost its queen during the late autumn of last year, and the bees will have deserted the old home—as being motherless and infested with one of their worst enemies, the wax-moth—and joined forces with one of your other colonies. There is no foul brood in comb sent; in fact, no signs of brood at all, healthy or otherwise. The B.B.J. is obtainable to order at any railway bookstall.

[3469.] *Dealing with "Wells" Hives.*—1. I have just become the possessor of a "Wells" double-hive with non-swarming drawers. There is a very strong stock of bees in one compartment of the hive, the other side being empty. I should, therefore, be much obliged if you could tell me the most profitable way to work the hive this season. I have four other stocks in very strong condition, from which I could make an artificial swarm if desirable. 2. As the weather here is exceptionally mild and early, should I now commence syrup feeding? 3. Will you also tell me the nearest B.B.K.A. to Rhyl? Thanking you in anticipation for your valuable help, I cannot close without telling you how much pleasure and instruction I get from the B.B.J., and in this out-of-the-way place I always look forward to a pleasant hour after the week's work in perusing it.—M. G. KELLETT, North Wales, February 16.

REPLY.—1. There are no "non-swarming drawers" in the "Wells" hive, and having no personal experience of such a hive as is mentioned, we are unable to advise you with regard to its management. 2. Do not start feeding at all if the bees are well provided with food until such time as the bees are flying daily and carrying in pollen. Should stores be short, give a cake of soft candy. The last week in March is early enough to begin stimulative feeding.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

BEE-KEEPER (Walsall, Staffs).—*Flowers for Bees.*—The only way in which your own bees can be induced to visit flowers specially sown for them in your own garden is to plant large patches of such varieties as bloom when the chief sources of surplus honey are in full blossom in the pastures and meadows of the farmer. Garden flowers grown as bee-forage are almost wholly helpful, as providing early pollen and honey for stimulating brood-rearing. A few of the best are crocus, wallflower, mignonette, borage, Limnanthes Douglasii, cornflower, white arabis, phacelia, and sunflower.

F. W. WETHERALL (Worcester).—*Zinc Covering for Hive Roofs.*—The subject you mention has been referred to by

several correspondents since the letter on page 37 appeared, and as Mr. White has not replied we may assume that it was a slip of the pen, as suggested on pages 48 and 56.

L. Braddon (Berks). — *Membership of County B.K.A.'s.* — 1. We can supply for two stamps a copy of our monthly *Record*, with the names and addresses of secretaries of county associations, who will, no doubt, send a copy of rules, &c., on application. 2. Berkshire, Essex, and Hants are all good counties for bee-keeping.

W. J. F. (Cornwall).—*Foul Brood Legislation.*—It would be an entire waste of time and space to re-open a discussion on the above question; we mean so far as regards individual bee-keepers giving their views at this period. The fact that the original Bill, as drafted by the B.B.K.A. in 1896 (*vide* last week's B.B.J.), met with the approval of so eminent an authority as the late Lord Thring should convince anyone that it was as complete as possible for the intended purpose.

"Farmer" (Lancs.).—*Humble Bees for New Zealand.*—The object of sending humble bees to the colony was to secure what the supposed "longer-tongued" Ligurian bee failed to accomplish—viz., the fertilisation of red clover. This is not done with the idea of exporting red clover seed from New Zealand, but to enable farmers there to grow their own seed in lieu of importing it from England, as they had to do in former times.

Novice (Bucks.).—*Packing Hives for Transit.*—See reply to query 3466 (page 78).

Q. X. (Beccles).—*Treacle as Bee-food.*—Treacle (or molasses) is unsuitable for bee-food: it is the thick, viscid substance that drains from cane sugar in the process of manufacture, and, being an aperient, is liable to cause dysentery in bees, particularly in winter, when they are confined to their hives for long periods.

Avon (Warwick).—*Wasps' Nest in Hive-Roof.*—The "nest" sent is that of the common wasp. It is a common occurrence to find such nests in hive-roofs or in empty hives in spring. The queen-wasp builds the first portion of the nest alone, and as brood is reared the worker wasps take up the labour while the mother wasp confines her labours to egg-production.

C. T. E. (Oxon.).—*Candy-making.*—Your sample is very good, being soft and smooth in grain, and altogether suitable for bee-food.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

SIX nearly new "W.B.C." Hives, with Bees, strong.—M. LAMBOLL, Sydenhurst, Chiddingfold, Surrey. w 20

BEES, in "W.B.C." Hives, strong, healthy, grand working strain; Hives nearly new, 10s. to 20s.—LARNDER, Ranscombe, Cuxton, Rochester. w 21

HONEY FOR SALE, in Glass Jars. What offer?—DEAN, Acres, Uptonheath, Chester. w 22

CYCLES.—Some grand Machines now for Sale, from £5 10s. upwards, with five years' warranty.—Particulars, apply RICHARDS, Postman, Kingswinford, Dudley. w 25

BEES.—Three Standard Frame Hives Bees, guaranteed healthy, 25s. each, lot £3 10s., carriage paid. Cash or Deposit.—WARREN, jun., Great Horwood, Bucks. w 28

HONEY.—4 cwt., splendid quality, 50s. per cwt.; 28 lb. 13s.; sample, 3d.—OWEN BROWNING, Ashley, Kingsomborne, Hants. w 29

"NEVER SWARM" SYSTEM, twelve years' absolute success and double surplus, free, 3½d.; Spring Feeders, "The Best," refilled without removal, 1s. 6d.; 12, 16s., free.—HARRIS, Wavendon, Bletchley, Bucks. w 30

SEVERAL new Frame Hives, strong Stocks, 20s. each, on rail, healthy.—HOLLEY, Expert, Shirfield, Basingstoke.

BEES FOR SALE, four healthy Stocks, also six Frame Hives, quantity of Sections and Wax Foundation, Geared Extractor, and other useful appliances.—J. BEX, 100, Churchill-road, Croydon, Surrey. w 33

FINE WHITE CLOVER HONEY, in 28 lb. tins, 5d. per lb.; sample, 3d.—LILLY, Mill Farm, Dean, Kimbolton. w 32

BLACK MINORCA COCKERELS, 5s., 2 9s. Exchange Honey or Bee Appliances.—ALSFORD, Bee Expert, Haydon, Sherborne. w 31

FOR SALE, Pure English Light Honey; sample, 3d.—LAW, Cuckoo, Ashwell, Herts. w 37

FOUR DOZEN SECTIONS, 6s. doz.; Glazed, 7s. 6d.; three 28 lb. tins well granulated Honey, 5½d. lb.—STRATTON, Apiary, Stanford, Faringdon, Berks. w 36

WANTED, young fertile Queen. State price, &c.—A. WAKERELL, 21, Mansfield-road, Croydon. w 26

WANTED, Observatory Hive, for Exhibition; must be cheap. Approval.—BEEGROVE APIARY, Odell, Beds. w 24

BEES.—Five strong Stocks, in nearly new Standard Hives, 22s. each, £5 the lot.—F. KENNARD, Percy-street, Stratford-on-Avon. w 23

FOR SALE, 40 egg Incubator, complete, with lamps and thermometer; good condition, 10s. 6d.—DAWSON, Rookery-lane, Wolverhampton. w 19

TO LET, UNFURNISHED, or FOR SALE, four-roomed Bungalow, Ropley, Hants, with acre ground, suitable for Bee and Poultry-keeping. Rent, £12; Sale Price, £140.—COLEMAN, 24, Hudson-buildings, Poplar, E. w 18

A SPLENDID PEN of BUFF ORPINGTONS. Will exchange for Bees or Appliances.—EASTO, 15, Rye Hill Park, Peckham. w 35

ENGLISH HONEY, 28 lb. tins, 6d. per lb.; sample, 2d. Cash or Deposit System.—STEVENS, Latimer Apiary, Chesham, Bucks. w 27

FOR SALE, quantity of Honey.—Apply, J. WEAVING, 27, Burford-road, Chipping Norton. w 9

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held at 105, Jermyn Street, London, S.W., on February 21. Present:—Mr. T. I. Weston (in the chair), Miss M. L. Gayton, Lieut.-Colonel H. J. O. Walker, Messrs. R. T. Andrews, Thos. Bevan, F. J. Bernau, W. Broughton Carr, J. B. Lamb, W. F. Reid, E. D. Till, and Ernest Walker. Four new members were elected, viz.:—Major-General C. M. Griffith, Maesgwyn, Winchester; Messrs. John G. Hurst, 140, Ramsden Road, Balham, S.W.; Enos Sheppard, Figheldean, P.O., Salisbury; and Miss E. Tudor, Friday's Hill, Haslemere, Surrey.

A brief report was received from the Finance Committee, and agreed to.

On the motion of Mr. Weston, seconded by Mr. Carr, it was resolved "That the B.B.K.A. will in future return to the secretaries of affiliated associations 50 per cent. of the rebate on insurance premiums obtained through them."

The Council proceeded to make arrangements for the annual general meeting and conversazione on March 21. Several subjects for discussion were suggested, nominations were made of President and Vice-President, and it was resolved to give notice on the agenda paper of a proposed slight alteration in the rules. Mr. Arthur Schofield, of Beckenham, subsequently had an interview with the Council in regard to the desire which has from time to time been expressed that a further effort should be made to resuscitate the Kent Bee-keepers' Association. Mr. Schofield said that with the kind assistance of schoolmasters in the various parishes and other gentlemen with whom he had communicated, he had been successful in compiling the names and addresses of about three thousand bee-keepers in the county, and he produced a map showing in what proportion they are geographically distributed. The Chairman and other members of the Council warmly thanked Mr. Schofield for the great trouble and interest he had taken, and complimented him on the ingenious and unique character of the map. In the course of a discussion as to how best to attain the object in view, Mr. E. D. Till (at whose instigation the work was undertaken) remarked that a matter of the first importance was to find an enthusiastic bee-keeper who would be willing to devote himself to the duties of Hon. Sec., and he trusted that with the help of such a friend it might be possible to reorganise an association which would prove of immense benefit to the industry. It was arranged to convene at an early date a meeting of local bee-keepers in a convenient centre—probably at Tonbridge; and in the meantime those who would be likely to join a county association, and particularly those who would actively assist, are invited to communicate with Mr. E. D. Till, The Priory, Eynsford, Kent.

The next examination for first-class certificates of the B.B.K.A. was fixed for the first week in May.

STAFFORDSHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of the Staffordshire Bee-keepers' Association was held in the Lecture Hall at the County Education Buildings, Stafford, on Saturday, February 2, the President (Mr. A. H. Heath) in the chair. Among those present were the Revs. G. C. Bruton and A. R. Alsop, Captain Lodge, and Messrs. E. W. Turnor, E. H. W. Knight, T. Harper, J. C. Rushton, Tinsley, Crutchley, &c.

The Chairman expressed the pleasure it gave him to attend one more meeting of the Association. Though they had placed him in the position of President, he did not profess to be an active member, but he was a sympathetic one, and took as much interest as ever in all that concerned bee-keeping in the county. In these days of improved science in almost every department of work which was carried on in that building, which was the centre of educational activity in the county, he thought that the Bee-keepers' Association had taken advantage of science as much, perhaps, as any other department of education in the county; and it was a source of great gratification to him to feel that the work of the Association was going on steadily, and that it was doing so much good in the way of enabling people to carry on a prosperous employment, and of encouraging those social amenities which were of so much value. After a sympathetic reference to the loss the Association had sustained in the death of their late expert, Mr. Cock, he (the Chairman) said he had not had the pleasure of meeting their new expert, Mr. Tinsley, till that day, but was informed that he was an able successor to Mr. Cock, and he believed that the interests of the Association would not suffer in any way. He hoped they would give Mr. Tinsley all the support they could.

The Rev. A. R. Alsop said he could re-echo all that the Chairman had said respecting the late Mr. Cock. From the time of his coming to Stafford to the day of his death they were the closest of friends.

The annual report, which was read by the Rev. G. C. Bruton, congratulated the members on a substantial balance in hand,

and on holding the most successful show for several years. The membership now totalled 183, of which twenty-seven were new members. Mr. Tinsley had visited 121 apiaries and inspected 624 frame-hives and seventy-nine skeps. The number of diseased colonies found was seventeen. The report, which was adopted, also referred to the death of the late Mr. Cock, and stated that a testimonial was raised in the county, and a stone erected to his memory.

Mr. A. H. Heath was re-elected President, the Rev. A. R. Alsop Vice-President, and Mr. E. W. Turnor auditor. The Committee were re-elected with two exceptions, Messrs. G. H. Mitton and H. Fieldhouse being appointed to fill the vacancies.

After the customary votes of thanks to the officers had been passed, the Rev. G. C. Bruton stated that he had had an interview with a sub-committee of the Education Committee, and they had agreed to make a larger donation towards the expenses of the expert. Thus the Association would be relieved of all the expert's expenses as regarded printing, postages, and personal expenses at the show.

Votes of thanks to the President, and to the County Education Committee for the use of the hall, closed the meeting.—(*Communicated.*)

NORTHAMPTONSHIRE B.K.A.

TWENTY-FOURTH ANNUAL MEETING.

The annual meeting of the above Association was held on Saturday, February 23, in All Saints' Schoolroom, Northampton, Mr. H. Collins occupied the chair, and amongst those present were Messrs. G. Mason, G. Page, R. Askew, J. Adams, C. Billson, S. Timms, F. J. Old, O. Orland, T. Roberts, S. Butlin, G. Odell, W. Manning, J. Bubb, A. Arlidge, and R. Hefford (hon. sec.). Messrs. A. L. Y. Morley, C. J. Burnett, and C. Cox sent apologies for absence. The statement of accounts showed receipts for the year £49 8s. 7d., and expenditure £38 14s. 11d., leaving a credit balance in hand of over £10. The accounts were duly passed. The report, read by the secretary, was also accepted.

After giving particulars of the successful show held on August 9 last, mention was made of the demonstrations in the bee-tent given on behalf of the County Council at ten shows held in various parts of the county.

The election of officials then took place as follows:—President, committee to appoint; Vice-Presidents, Earl Spencer, K.G., Lord Effingham, the Lady Knightley, Hon. E. A. Fitzroy, Mr. H. Manfield, J.P., and Mr. James Manfield, J.P.; hon. sec., Mr. R. Hefford; hon. treasurer, Mr. G. E. Atkins; district secretaries and committee, Messrs. J. R. Truss, W. Manning, C. Cox, J. Francis, F. J. Old, C. J. Burnett, O. Orland, H. Collings, G. Page, J. Bubb, W. Osborn, F. Beale, and G. Odell. Mr. W. Herrod, F.E.S., was appointed judge for the annual show. The meeting closed with votes of thanks to the Chairman and to the managers for the use of the schools.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

AMONG THE BEES.

"KINKS" FROM DR. MILLER.

Being Short Extracts from his "Forty Years Among the Bees."

[6631.] [A prominent bee-keeper, whose name is known wherever apiculture is practised, with an experience of over forty-five years, must have some "tips" well worth noting, and I have collated a few of his gems for the benefit of our readers.—D. M. M.]

I left business, the city, and a good income to be in the country and with the bees all the time. I have never regretted the choice.

After forty-five years, so far as enthusiasm and interest are concerned, I do not believe my stock is any less.

My two very best colonies furnish my young queens, the next best furnish choice drones. I carry out this plan from year to year.

The "Miller" frame has a kerf to receive the foundation, and another to receive the wedge that fastens it in. The bottom-bar consists of two pieces, allowing $\frac{1}{8}$ in. to receive the sheet of foundation. Five splints serve instead of wiring. When these are built out they make beautiful combs, and the splints do not seem to be at all in the way.

Arranging hives in pairs is quite a saving of room, a saving of travel, and there are many other advantages.

If a colony comes out in spring strong, and with combs full of stores, I have some doubts if I can hasten its building up by any tinkering I can do. So I simply make sure they have abundant stores.

I have found no way of securing all worker-comb except by having it built by a weak colony.

With over 4,000 frames on hand I found having an odd size was such an inconvenience that I changed to be in line with the rest of the world.

My bottom-board has a space 2 in. deep under the bottom-bars, a very nice thing in winter.

From my Record Book I can tell more or less of the history of every colony since I began bee-keeping. I do not need to be in the apiary all the time. A good deal can be done at home.

Every hive is numbered. Pieces of tin painted white, with the numbers in black, are used.

For a hive-cleaner I use a hatchet with a straight edge. Its weight is quite a help, something like a flywheel.

While it is bad to use too much smoke, it is bad to use too little. Use sufficient to subdue them at the outset.

In the matter of propolis there is a difference in bees, as well as in localities. The worst daubers I ever had were so-called punics.

After all is said and done about rules for finding queens, you must do more or less hunting to find her.

Cleats on the smoker lighten labour, and ease the muscles that work the bellows.

To "pound" bees off comb, hold by corner with one hand while the other hand pounds sharply on the hand holding the frame. I get every bee off the comb with a few strokes. I know of no brush better than one made of some growing plant—no little bit, but a good big bunch.

In general it is best to adopt standard goods. They can be had more cheaply and conveniently.

It takes a good deal of wisdom to practise stimulative feeding for the sake of hastening the work of building up the colony. But it takes a good deal more wisdom to manage stimulative feeding so as not to do harm instead of good.

A little salt thrown into the water helps to keep it sweet, and prevents it from being the breeding-place of insects. Perhaps the bees like it better with the salt.

If I had so few hives that I could at all times do everything by a perfect system, I am afraid I should have part of the time a good deal of idle time on my hands.

It seems no use to unite weaklings in spring, but I have united five into one, and the united colony seemed to do no better than one left separate.

I think that with increasing years I have an increasing aversion to weak colonies.

Shall I take frames of brood from strong colonies to give to the weaklings? Not I. But when a colony has its hive so crowded with brood that the queen seems to need more room, then a frame of brood can be taken to help others.

With fertile workers, when the bees are blacks or Italians, it may be the best thing in all cases to break them up, distributing the bees and combs to other colonies.

A little time before bees commence work in supers, little bits of pure white wax will be seen stuck on the old comb about the upper part, yet I hardly wait for this, but go rather by the white clover.

My market does not seem to like tall sections any better than, if as well as, the square $4\frac{1}{4}$ by $4\frac{1}{4}$ sections.

If a colony has nine, ten, or more frames of brood, all but eight are taken away.

We know that a bee-space, or that in which bees were least inclined to put either comb or propolis, was a bit less than $\frac{1}{4}$ in.

I find the queen so seldom goes up into the sections that sometimes not more than one in one thousand will be found troubled with brood.

Bait-sections are put in supers, so that the first super put on each hive shall be baited. Generally, only one bait-section is in a super, the bait being in the centre. No bait-section is needed in any super after the first.

A given colony will not swarm with a queen of this year if the queen was reared in this colony. If reared elsewhere it may swarm.

The very first colony to send out a swarm was one of my "Jumbo" hives!

If by carelessness I have left a section of honey on a hive, and find the robbers at work upon it, I can hardly do a worse thing than to take it away.

I have been a bee-keeper for forty-five years, and yet I have not reached that point where I care nothing for protection of stings.

Old age will not be one of the reasons that will always decide the death of a queen. Some queens do excellent work in their third year, and, rarer, in their fourth.

Rarely, if ever, have I found bees to start a queen-cell on too old larvæ on prepared combs. Try putting some common salt in a place where you think of storing honey. If the salt remains dry so would the honey.

There are reasons why it is better to have a comparatively small number of colonies do the work of storing when feeding, taking sealed combs from these to give to the weaker ones.

On the whole there is a mixture of judgment and guesswork as to putting on any super after the first. Perhaps the nearest to a general rule is to give a second when the first is half filled.

The queen being the soul of the colony, I consider no pains too great that will give better queens. I requeen from the *best*. I judge from amount of surplus of several

years, industrious workers, good winterers, gentle, and not given to swarming.

The bees are made to stay in nucleus-hives by having the entrance plugged with green leaves. Even if neglected, bees make their way out.

Latterly I usually introduce queens by fixing a provisional cage directly over the brood near the centre of the hive, but often I take a frame from a nucleus, putting frame and all into a queenless hive.

Increase is made by taking frames to the out-apiary, and, of course, bees stay wherever they are put, and work up into a stock.—D. M. M., Banff.

INTRODUCING QUEENS.

THE "SWARTHMORE" PLAN.

[6632.] If the following instructions are closely followed there is no reason why anyone cannot successfully introduce a new queen directly it is received:—When the new queen arrives, go to a strong colony, tiered for extracting (with zinc honey-board in place), and carefully lift the upper chamber, bees and all, on to a "Pratt" floor-board with ventilator slide in place. After covering the lower chamber containing the brood and old queen, replace roof, and remove the upper chamber, queenless and broodless as it is, to a cool place for the present. In thirty minutes the new queen may be released from her cage and run directly in with the queenless lot of confined bees in this upper chamber. After one night's confinement thus, set the upper chamber on the old stand, and remove the lower chamber to a distant stand, and then release the bees.

If increase of colonies is not desired, hunt up and dispose of the old queen, now on distant stand, at sundown of the next day. After three days of queenlessness return the lower chamber to the old stand, setting it on top of the chamber containing the new queen. Omit the zinc honey-board at this point and the new queen will soon enter the brood-chamber and promptly cut down any queen-cells which may have been constructed.

The success of this simple plan is entirely dependent upon there being *no* brood in the upper extracting chamber from which queen-cells can possibly be started.

We use the above plan of introducing in the Swarthmore yards almost exclusively, and, as a rule, with entire success. For further information on introducing and forming new colonies see the "Swarthmore" books, obtainable at the B.B.J. office.—E. L. Pratt, Swarthmore, Pa., U.S.A., February 14.

BEE NOTES FROM JERSEY.

ILL-LUCK WITH DRIVEN BEES.

[6633.] We had a most beautiful day here on February 25, and the bees made good use of it, many bringing in pollen from the gorse blooms, others carrying in water to moisten the candy, and a big lot from one hive were simply flying round, but, not leaving the hive-entrance more than a couple of feet, I suspect this colony is queenless, and have marked it for an early examination. The bees of several stocks built up from driven lots of bees I notice to-day did not venture out; these are from skeps driven at the end of last September and one in October. I got them from farmers in the district whose honey I generally buy. Of course, in these cases I sometimes get first-class lots, but on the whole driven bees have with me been a failure. A few perish altogether during the humid winters we get here, and some dwindle down in the spring, so that half the season is over before they get into form for supering. The age of queens is in many cases unknown, and after joining two, and sometimes three, lots together, it lands me in the spring following with a queenless colony, few bees on hand, and those old and worn out. The foregoing is a sample of my experience, and I have tried to build up my apiary for several years back. Now I intend to draw the line, and have nothing to do with driven bees in September. It is simply beginning at the wrong end of the job. My experience, therefore, is that one good May swarm is worth twenty lots of driven bees at the end of the season. I intend to work in the coming season for swarms and success. Best wishes to all in the craft.—W. W. K., Jersey, C.I., February 25.

THE B.B.K.A. LIBRARY.

[6634.] In recent correspondence in the Journal I notice several references to the B.B.K.A. Library. I am a member of the parent Association, but know nothing about its library. It therefore occurs to me that if the B.B.K.A. would allow it, a list of the books might be printed with advantage in the Journal. It would very likely lead to an increase of membership, and, in any case, those who are already members would know what books there are in the library. I make this suggestion on the supposition that the list would be small. If the collection of books is a large one it would, of course, be impossible. And I should not suggest such a thing in the Journal, but to the B.B.K.A. itself. What has been already written on the subject seems to imply that no offence would be taken at the suggestion.—Sidney Smith, Wheldrake Rectory, York, February 25.

(*Correspondence continued on page* 86.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

The apiary seen below has been ready for insertion in our bee-garden views for some time, but its publication was unavoidably delayed. The owner, Mr. E. Hancox, was an enthusiastic bee-keeper and reader of this journal so long ago as in Mr. C. N. Abbott's time, and the hives seen are made to take the large frame advocated by Mr. Abbott in the B.B.J. some thirty years ago. His son, Mr. David Hancox, Deddington, Oxfordshire, himself an old B.J. reader, sends us the following particulars of his father's apiary in Vancouver, British Columbia, where, I understand, there are now a few good bee-keepers, whose bees do well. He says:—

"My father obtained his first bees from New Westminster, thirty miles distant from his residence in Vancouver, and in a letter to me he describes his experiences in bee-keeping as follows:—'The bees were sent in a box with vent-holes bored in its top, and came by train to my place. The sender promised to apprise me of their arrival, but failed to do so till late on the following morning; consequently when I reached the station the bees were all dead (suffocated). However, he gave me another lot, and so I got a start. I have now twelve stocks, in hives holding Abbott's large frames, with room for sections on top. All these hives I made myself.'

"Being an employee of the Canadian Pacific Railway, my father had to work ten hours each day two miles away from home, and not seldom on Sundays as well, so could not devote very much time to his bees; but considering that his apiary was located in a large town, outside of which the forest extended for miles in all directions, his harvests of honey were very satisfactory. By keeping his stocks strong, they yielded on an average thirty pounds of surplus yearly in comb and extracted honey, taking both good and bad seasons together. It appears that white clover grows plentifully in all the clearings and vacant spaces for many miles around, which accounts for the honey being of nice flavour, though sometimes it is a bit spoilt by smoke from the forest fires. I am sorry my father is not seen in the picture, together with his cow and bees, which supply his grandchildren with milk and honey *ad lib.*; but he is an amateur photographer of many years' standing, and had to manipulate the camera himself. I am also glad to say that his interest in bees and bee-keeping does not appear to diminish as the years go by. So in this respect he is like myself. Wishing to all readers a successful season in 1907."

MR. E. HANCOX'S APIARY, NELSON STREET, VANCOUVER, BRITISH COLUMBIA.

CORRESPONDENCE.

(*Continued from page* 84.)

FOUL BROOD.

THE CASE FOR A PERMANENT CURE

By the Aid of Medicinal Agents.

[6635.] In my first article I endeavoured to show that bees are able to suppress this disease either with or without help, so that in some cases it has been very much in the nature of a cure. In my second paper I explained how it is possible for a diseased colony to go beyond suppression, and finally reach the stage of a perfect and permanent cure.

Consequently suffering bee-keepers who may not be experts have little reason to lose all hope of seeing their stricken apiaries once again clean and prosperous. The matter really rests with themselves, for in most cases, where stocks are not utterly run down, it is possible to raise that necessary "vim" which is the very first essential to success. It is because this all-important point has been lost sight of that so many of the articles offered as cures have failed in practice in numerous instances. Whether one proposes to use salicylic acid, soluble phenyle, Izal, phenol, or other remedies always procurable, this one great fact should be pre-eminent—the vital force of the bees must be raised so that they will aid the owner in his every endeavour.

It would be strange indeed if the workers did not ultimately contract the disease where the brood is already seriously affected, and through them the queen as well; but the latter may nearly always be taken to a clean hive without carrying the complaint with her. In years gone by I have so shifted many queens, and in no case has disease followed. Experts generally know that the so-called starvation method of cure ensures a clean brood-nest, when the bees again build new combs, a period of seven to ten days occurring before larvæ again appear; notwithstanding, no attempt is made to destroy germs that may be adhering to the hairy bodies of the workers or queen.

We are told that the bees had consumed all the honey removed by them from their diseased combs; but it is remarkable that the closest scrutiny under the microscope may fail to reveal any germs of disease in honey, though it be taken from the foulest of combs. Nevertheless it is well known that healthy bees cannot rob an affected colony of its coveted sweets without ensuring contamination of both the stolen honey and their own bodies, so madly do they search and rush over the combs. Neither can honey be extracted from such combs without the operator also causing the presence of germs in the liquid that may previously have been entirely free from them.

A dead queen-larva was found by the late Mr. F. R. Cheshire to contain bacilli, while the royal jelly in the same cell was absolutely free from disease germs. He also examined hundreds of dead worker grubs which were diseased; but in no case did the surrounding food contain bacilli, though some of the larvæ were taken from combs in the worst possible stage of disease. These investigations go a long way towards explaining how the renewed energy of a stock may often make it capable of throwing off the dreaded malady.

Mr. T. W. Cowan strongly advocates soluble phenyle as being very beneficial, and, moreover, non-poisonous, and he states that it has been quite successful in many cases. He insists, however, that the proportions in solution as mentioned in his excellent "Guide Book" must on no account be exceeded. This, as well as some other valuable remedies, is sometimes objected to by the bees, whereas I have found Izal to be even liked by them, and, being practically non-poisonous, it can be applied in stronger doses than most other agents offered for destroying the germs of foul brood. The inside of the hive may be washed out with a powerful solution of Izal and the bees returned while it is still wet, when they are not injuriously affected by it in any way. Moreover, I have found it a great advantage to soak all the quilts in a strong solution; or a large sack may be so saturated, folding it and placing it over the frames while wet. Carbolic acid and some other curative agents used in this way would drive all the bees out of the hive, hence the reason why I prefer and advise the simplicity of the Izal treatment.

The proportions of this fluid in solution which I have advocated for several purposes are as follows:—For saturating the sides and floor of the hive (changed meanwhile) and for soaking the quilts, use 1 teaspoonful to 2 quarts of water. For syrup feeding allow ½ teaspoonful to 12 lb. of sugar made into syrup, adding the Izal when the food is nearly cold. In reply to queries I should state that Izal liquid (not the powder) is to be used, the latter being a gritty compound, and of course quite unsuitable for use in connection with bees.

Cutting out portions of the comb is unnecessary with this treatment, while I consider the spraying of combs containing living brood is not desirable with any antiseptic. The more satisfactory plan is that of crowding the bees on to a few combs; then spraying those removed, and repeating the operation as each comb may be returned at the centre of the brood-

nest. The great benefit derived by adding a comb or two of healthy capped brood to diseased stocks has already been noticed; while stronger colonies taken in time may be deprived of their queen (adding a young one later), so that no further fuel may be added, while the workers then clean out the cells more readily. When I first noticed this fact some thirty years since, I was, and continued to be for some years after, an advocate of destruction where the malady was serious; but facts gradually accumulated that finally convinced me that destruction by fire was unnecessary. By referring to the early numbers of the B.B.J. it will be seen that Mr. T. W. Cowan also practised this method at that period, saving the bees, of course; but a few years later in a letter to myself he gave it as his opinion that the act of destroying combs and hives was as illogical as burning the furniture of a house after a case of fever therein. The same gentleman, having seen the advantages arising from the use of salicylic acid, replying through the B.B.J. for January 15, 1885, to a correspondent who had failed with phenol, stated, while deprecating destruction, that, "having seen and known large apiaries completely cured by fumigating with salicylic acid, he should advise him, if he had not yet done so, to try it. . . . There are cases when a hive is beyond cure, but they are extremely rare, and he had known cases where salicylic acid fumigation had effected a cure when every other remedy had failed" (*i.e.*, such as were then known).* The late Mr. F. R. Cheshire showed how he had cured a very bad case (one of several) by the use of phenol. Nevertheless, this enthusiastic scientist was aided largely by the elements of vital force which he added in the shape of healthy brood and bees, with also a fresh queen, so that the medicinal agent employed got all the credit, while the principal features in the case were overlooked. The hive of combs he received for carrying out the experiment were almost denuded of bees and had no queen, hence without this added force the combs would probably not have been cured.

As I have stated that a permanent cure may be ensured when the final or spore stage is reached, it has been suggested in your pages that I have been unable to differentiate between the earlier and later stages of the bee-pest. This gentle insinuation as to my supposed defective method of reasoning and distorted powers of observation requires but little notice from me. I will only say that experts generally being already aware that the bacilli can be readily disposed of, my sole object for many years (in regard to this matter) has been to show that so also can the spores be made to disappear.

Nevertheless, there are always some spores present during the so-called bacillus stage. The first larvæ to succumb are but a few days dead before spores are to be found. If, then, a smaller number of (unacknowledged) spores can be disposed of during the earlier stage of the disease, why is one told that antiseptics are useless during the final stage, when there are only spores innumerable to deal with? So that I may not be misunderstood on this point, I may say I fully agree that no medicinal agent as yet used appears to act directly upon the spores of foul brood in so far as such may be applied to living bees.

In the earlier stage of the complaint the stock is yet active, and hence also are the germs of disease, thus meeting in detail the fate prepared for them. At the later stage the bees are in small numbers, thoroughly disorganised, and of course inactive, so that there is now no medium whereby one may administer an antiseptic course of treatment. But we have only to obtain a more suitable medium in the shape of a vigorous stock (or added bees), giving them the supposed incurable combs one by one, when such spores as are not cleared out wholesale with the putrid matter are again brought into temporary activity, for disposal as in the earlier stage above referred to. Cheshire did this exactly; the writer has done it; but it is mentioned here as a point gained in practice, and not by any means as an example to be followed generally, where the malady may be discovered too late for ensuring a profitable return for the trouble incurred. — SAMUEL SIMMINS, Heathfield, Sussex, February 20.

* We cannot help saying it would be more to the point if Mr. Simmins had quoted Mr. Cowan's present views on the subject rather than his words of over twenty years ago. Our Senior Editor has not been blind to the investigations of Dr. Lortet and other eminent scientists, to say nothing of his own matured experiences during the intervening years since 1885.—W. B. C.

PACKING BEES FOR BRAZIL.

[6636.] The writer of the following note, addressed to a well-known firm, renders good service to the many bee-keepers who write us from time to time for information with regard to sending bees to distant parts of the world. But in giving the name of the firm to whom the letter is addressed it is only fair to say that consignments of bees have been successfully supplied to bee-keepers dwelling in foreign climes by several others of our advertisers who specially lay themselves out for the difficult work involved. It therefore goes without saying that orders should be sent

to experienced men, who alone can be safely entrusted with work of that kind. —[Eds.]

Messrs. Jas. Lee and Son.

Dear Sirs,—I am writing this to express my thanks for your attention and care in packing the swarm of bees that I brought out with me last November. It probably may interest you to hear that said swarm arrived here in wonderfully good condition. The bees were delivered to me, suitably packed by your good selves in London, on November 1. They were stored, as advised, in the cold storage of the steamer, and landed here on November 19, when, owing to unforeseen circumstances, I did not open them up for flight until I transferred them to the hive on December 15 following. On opening up packing-case only a score or so of bees were found dead; there was plenty of food going. The bees are now flourishing and hard at work, clean, docile, and show every sign of doing well. You are at liberty, should you desire it, to make any use of my comments you think fit. Again thanking you, and wishing you all prosperity for the year 1907.—J. V. Smyth, Rio de Janeiro, Brazil.

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

Quilts as Frame-coverings.—"Quilts over frames are something I have never used. The tops of my frames are a bee-space below the top of the hive, and I use a flat cover. If anyone thinks I ought to use quilts, I wish he would write me." So queries the editor of the *Review*. I don't suppose many American apiarists will trouble to communicate with Mr. Hutchinson, and I know that 999 out of every 1,000 active bee-keepers on this side think he ought to use quilts." Moreover, they would give him the most convincing argument men could produce by unanimously voting that they are the best and most natural covering for frame-tops. In my view, warm wraps are incomparably better than cold wood for keeping bees pleasantly snug and comfortable. The ease of manipulation with these overhead coverings is an important point well worth taking into consideration. The pleasure in handling frames thus wrapped up is one of the delights of opening up a powerful colony, because they lend themselves to a gentle, expeditious, and effective examination of the contents of a hive without unduly exposing or agitating the bees. Propolis is often the bee-keeper's bane, and these wraps lend themselves less than any other covering to the use of an undue excess of this dauby matter. They are ready at hand even during summer to wrap up supers so snugly that there is little loss of heat even during chilly nights. I for one would vote for these coverings against all comers.

A Bee's Memory.—The *American Bee-keeper* quotes thus from "Bienen Vater": —"The memory of a bee is of three months' duration, as I have proved bees confined for over three months mark a new location like young bees. Other experienced bee-keepers claim otherwise, and if they are right, then the honey-bee has a longer memory than three months." The above is so beautifully indefinite that it leaves you with your own opinion still, whichever side you may take. What, however, does it mean when bees swarm from the same hive, on the same bush, for five successive years? And what can be said of vicious bees in a particular hive who, year after year, remember one special biped, and pepper him lovingly every successive season?

"*Bees Ridiculously Lazy*"?—Oh, Mr. Arthur C. Millar! To punish you I won't quote another word of your "ridiculous" contention on page 2. There! Here are some classic quotations for the other side: —"In their labour at home and abroad bees are so admirable that they may be a pattern to men. Their labour never ceaseth" (Butler). "As honey excels all other things in sweetness, so doth bees all other insects in wisdom and industry" (Rusden). "A bee is a *magnum in parvo*, a little in quantity, but much in work" (Purchas). "The bee of all insects is certainly the most indefatigable in its labour" (Warder). "Bees are of all creatures the most laborious" (Levett). "Excellent labourers" (Lawson). "Bees are the most industrious of all our animals, never at rest while they have matter to work upon" (Worlidge). I could add indefinitely to these extracts, but refrain, as I may be told this is "ancient history." True; but the new is not always the true, and the true is not always the new. These old bee-masters, over 300 years ago, learned a *truth* which, apparently, some bee-masters of the present day are trying to unlearn.

"*Helpful Hints.*"—Mr. E. D. Townsend is giving a course of these in the *Review*, but he says his "talks will be more in the line of what *not* to do rather than adding new manipulations to the already too complicated systems in vogue at the present time." Here is one of his old-new truths:—"No one has yet written with half enough emphasis upon the importance of having bees *rich in stores* during the breeding season of sixty days previous to the main honey-flow." I have preached the same doctrine for years,

and G. M. Doolittle lately set extra stress on having "millions of stores" at that time. No one who has not tried it can appreciate what a saving of labour, time, temper, and cash it is. Mr. Townsend strongly favours the eight-frame "Langstroth" hive, which is just the same in comb-surface as our ten-frame standard. He even goes further, and maintains that from seven to nine frames give just the ideal breeding-space for 90 per cent. of our queens. That is the gist of an article I lately contributed to our own monthly *Record*. Those who vote for deep frames should remember that the "Langstroth" and our "Standard" contain exactly the same depth of comb, and differ only in length of frame.

Mistletoe Honey.—This is something new to me, but apparently they obtain it in Texas. Mr. Scholl says:—"Mistletoe is the first source of the season, beginning to bloom in December and into January, yielding an abundance of bright yellow pollen, and honey which makes it valuable for early breeding. It is widely distributed throughout the entire state." Gathering honey in January and December sounds strange to us, but Mr. J. A. Green tells us that in California, too, he found active breeding going on in all stages in these months in hives he opened to test the matter.

A Protest!—"It will be noted that we have started the use of the names European and American foul brood," says the editor of *Gleanings* (page 168). As earnestly and emphatically as I can I enter my protest against so misguided and erroneous a procedure. Coin names as you please, Mr. Root, but let them at least have a measure of common sense to justify their being perpetrated. Let the editor of *Gleanings* turn back a page, and see what intolerable confusion would arise from the use of these terms if they get established. So able a bee-keeper as Mr. Alexander (on page 167) gets into a perfect tangle in trying to elucidate the matter. "Another point of difference is, a larva affected with American foul brood seldom dies until about old enough to be capped over, or after it is capped by the bees, while a larva dying from the effect of European foul brood seldom lives to be capped over." That last statement is a caricature of the European disease, while the first clause exactly describes it. Again: "I know honey with American foul brood is diseased; with European I have my doubts"! Why, our scientists have demonstrated this again and again! Bee-keepers here have no "doubts," because they have proof positive that from hives affected with *Bacillus alvei* honey is tainted. "It is very easy to cure an apiary of European F.B., but the American F.B. is incurable." I wish some American bee-keeper would only try his hand with some of our worst type. On simpletons who write about curing a genuine bad case by simply re-queening I won't waste words. The inspectors at St. Antonio believed the best "cure" in bad cases was destruction by fire! I have repeatedly in the past, and now again repeat, that in such circumstances curing by killing is the only safe and sure course to follow.

Queries and Replies.

[3470.] *Re-queening Stocks.*—I wish to re-queen two of my stocks by simply killing the old queens. This is the only plan I can follow, as I am away from home most of my time, and do not wish to buy new queens. What I want to know is:—1. The earliest date I can do this? 2. If several queen-cells are formed, do you advise cutting out all but one when capped over or just leave it to the bees? I have nine stocks, so the others will provide the drones. Thanking you in anticipation of reply.—J. C. THOMPSON. Leicester.

REPLY.—1. The first week in May is about as early as we advise, and then only if weather is favourable. 2. Leave it entirely to the bees as being the safest course under all the circumstances.

[3471.] *Fermenting Honey as Bee-food.*—I have about ½ cwt. of honey which is slightly fermented. This I want to use for feeding bees in the spring. How can I keep it from further fermentation, or, if possible, put it quite right? An answer in next week's B.B.J. will much oblige.—J. H., Stonehouse.

REPLY.—If the honey is—as stated—only slightly fermented, there will be no danger whatever in using it for spring feeding. When preparing for use, thin the honey down, by adding hot water, to the consistence of ordinary syrup, and let it come to the boiling-point, stirring frequently; then remove the scum from surface, and use in the ordinary way.

Bee Show to Come.

March 9, at the Preston Scientific Society's Rooms (in connection with the Annual Meeting of the Lancashire Bee-keepers' Association).—Open to Members of the above Association whose house rent does not exceed 6s. per week. Class for two jars Extracted Honey. Prizes: 1st, Baroness Burdett-Coutts Prize Hive; 2nd, Root's "A B C of Bee-keeping"; 3rd, Cowan's "Guide Book" or "Honey Bee"; 4th, Bound Vol. of *Bee-keepers' Record*; 5th, "Modern Bee-keeping." No entry fees. Apply to Jas. N. Bold, Hon. Sec. L.B.K.A., Almond's Green, West Derby, Liverpool. **Entries close March 1.**

Notices to Correspondents.

J. S. (Larkhall).—*Bees Dying after Return from the Heather.*—There is nothing in the appearance of the few bees sent to account for their dying off as stated. Our impression is that the stocks in question lost many bees at the heather, and afterwards perished from sheer want of bees to keep up the warmth necessary for sustaining life. Your remark "the bees took the comb instead of the honey" puzzles us. Does this imply that the combs were nibbled away, or are you misled by the remains of comb-cappings seen on the floor-board? In any case, with no details sent, and only a few dead bees to judge from, we have no means of diagnosing the cause of death.

R. Chapman (Kettering).—*Honey as a Cure for Eczema.*—We have not heard of the value of honey for this purpose, and gladly accede to your wish that bee-keepers may have your positive evidence of its efficacy in that direction when simply applied freely to the part affected on going to bed and wrapping up well.

L. A. V. (Rye).—*Bee-Candy.*—Sample is not boiled enough: it will go quite hard when the moisture evaporates. Boil next lot longer, and keep well stirred when cooling off.

Honey Samples.

A. Botham (Whitby).—No. 1 is a good heather honey on all points, and worth a place on any show-bench. No. 2 is almost equally good, but of the two we prefer the first. Both samples are well worth staging at the "Royal" show at Lincoln in July next.

E. L. L. (Beds.).—Your sample is fairly good in quality, but its colour is deteriorated somewhat by a slight admixture of what we take to be honey-dew. Referring to its condition when received, honey, even when almost granulated solid, should not be sent with only the protection of an ordinary envelope. It is not in pleasant condition for handling. A tin box is needed to make it safe.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

8 STOCKS, in Standard Hives; 1 ditto, Skep, 56 drawn-out Shallow Frames, all cheap; must sell, owner going abroad, all new since 1904.—WRIGHT, Oscroft, Tarvin, Chester. w 56

FOR SALE, 16 strong Stocks Bees, all re-queened last season by Cyprian (imported), pure Italian, Golden Italian, Golden Prolific, and Blacks. No reasonable offer refused for whole or single lots. Also Section Racks and Combed Sections. Owner leaving district.—Apply by letter, GEO. SANDERS, Holmwood, Dorking, Surrey. w 55

Special Prepaid Advertisements.—*Continued.*

230-EGG Strain Anconas; 250-Egg Strain White Leghorns; early chickens pay best. Send for list. Sittings, 4s.—SWAFFIELD, Kingstone, Hereford. w 54

4 DOZ. Good Sections, some Heather, 8s. 6d. per doz.; Seconds, 6s.; good Irish Terrier dog, 18 months, 15s.—W. WOODS, Normandy, Guildford. w 53

HONEY.—Several dozen well filled Sections, also Extracted, in bottles, cheap.—TREBBLE, Romansleigh, South Molton. w 52

QUEENLESS STOCKS, Queens, 5s.; Nuclei, 7s. 6d. Wanted, Honey for feeding.—KEATLEY, Four Oaks. w 51

COTTAGE HIVES, with Standard Frames, Sections, Starters, and painted, carriage paid 100 miles, 9s. 6d.; "W. B. C.," complete, 15s.—RANSOME, Hellingly, Sussex. w 50

STOCK, on eight Frames, also empty "Wells" Hive, complete, £2 lot.—PICKERSGILL, Bishop Monkton, Leeds. w 49

WHAT OFFERS for 1½ cwt. of good Light Honey, in 28 lb. tins?—CUCKSEY, Elderbury Farm, Mildenhall-road, Soham. w 48

3 GROSS 1 lb. Jars Granulated Honey, 8s. doz.; Black Minorcas, Buff Orpingtons, 2s. 6d. sitting, unfertiles replaced; incubator, 30-egg, sell, or exchange bees or appliances.—CHARTER, Tattingstone, Ipswich. w 47

SPLENDID LIGHT HONEY for Sale. Offers to clear.—LEY, Easton, Stamford. w 46

WANTED, Bee Appliances in exchange for a few healthy Stocks on Frames or Prime Swarms.—JOHN HILL, Whithorn, N.B. w 45

FOR SALE, 200 Clover Sections, well filled, 8s. 6d. doz.; 50 bottles Heather Honey, 9s. doz.; also 14 Hives of Bees, 15s. each; 5 empty Hives, 5s. each; Section Crates, with Hives, Extractor, 15s., quite new. Inspection invited.—C. MIDDLETON, Skelton, Ripon. w 44

FOUNDATION STRETCHING STOPPED by simple device, better than wiring; every cell free for breeding; successful where tried. Sample, 7 stamps; full set for one frame, 1s. 1d. (patent applied for).—W. PALMER, 174, Curzon-street, Netherfield, Nottingham. w 43

EXCHANGE several Oil-Paintings, framed, 21 by 27, value 25s. each, for Bees or Honey. Photos, 2d.—CRANLEIGH, Norfolk-road, Erdington. w 38

2 CWT. SPLENDID LIGHT CLOVER HONEY, ½ cwt. tins, 29s., f.o.r., tins free; sample 3d.—J. E. PHILLIPS, Askham Richard, York.

FOR SALE, 60 lb. Extracted Honey.—NICHOLSON, Kirkbythore, Penrith. w 41

BEESWAX (½ cwt.), good colour, clean, 1s. 8d. lb.—HARRISON, Bee Farm, Middleton, Pickering. w 40

FOR SALE, eight Stocks of Bees, on ten Frames, in good Frame Hives, 17s. 6d. each, or nearest offer; also two new Hives, painted, 17s. 6d., or nearest offer; all in good condition. Owner going abroad.—J. DRUCE, Highfield Cottage, Alwyn-road, Maidenhead. w 39

WILTSHIRE CLOVER HONEY, Extracted, 12 lb. 6s. 6d., 28 lb. 13s., 49s. cwt.—TUCK, grocer, East Knoyle, Wilts. w 10

CHAPMAN HONEY PLANT SEEDS, 6d. and 1s. packets, post free.—E. H. TAYLOR, Welwyn, Herts.

HONEY.—4 cwt., splendid quality, 50s. per cwt.; 28 lb. 13s.; sample, 3d.—OWEN BROWNING, Ashley, Kingsomborne, Hants. w 29

SIX nearly new "W.B.C." Hives, with Bees, strong.—M. LAMBOLL, Sydenhurst, Chiddingfold, Surrey. w 20

Editorial, Notices, &c.

NOTTS BEE-KEEPERS' ASSOCIATION

ANNUAL MEETING.

The annual general meeting of the above association was held at the People's Hall, Nottingham, on Saturday, March 2, Mr. E. F. Milthorp, of Newark, presiding over a good attendance, which included Messrs. G. Hayes (secretary), W. Ellis, T. N. Harrison, W. H. Hoyte, W. H. Stoppard, A. G. Pugh, P. Scattergood, R. Turner, R. Mackinder, T. Marshall, W. Darrington, Dr. Elliott, W. P. Meadows, W. Dickman, and W. B. Adams.

According to the balance-sheet there was a balance in hand of £2 6s. 2d., the receipts having amounted to £107 2s. 9d. The accounts were passed.

The annual report stated that during the past year the association continued to increase, forty-two new members having been enrolled, and this brought the total up to 205—a record membership. For 1907 ten new members had already been admitted, which would make the total 215. The bee-tent and lecturer had been to Newark, Colwick, Balderton, Mansfield, and Welbeck, and the attendances had been larger than usual. The expert visiting was divided amongst seven experts, who had collectively visited 229 apiaries. Of five candidates who presented themselves for examination for third-class certificates, four were successful, as was also the second-class certificate candidate, Mr. W. H. Stoppard, of Nottingham.

Three shows had been held, at East Bridgford, Southwell, and Mansfield, the last-named being the annual county show, the entries for which were larger than in any previous year. A falling-off in insurers was reported, and the dating of policies was now altered so as to run from March 25, 1907, to March 24, 1908, this being considered advantageous for several reasons. The report was adopted.

Viscount St. Vincent desired to resign the office of president on account of his leaving the neighbourhood, and the Duchess of Portland was elected to fill the position, his lordship being thanked for his past services. The retiring committee was re-elected with the addition of Dr. Elliott. Mr. Peter Scattergood was re-elected auditor, Mr. G. Hayes secretary and treasurer, and Messrs. Pugh and Hayes delegates to the British Bee-keepers' Association.

It was decided to hold two general meetings during the year, one of them to take the form of a picnic, the committee to make arrangements.

Later on in the evening a paper on "Beeswax and its Adulterants" was read by Mr. P. Scattergood, after which Mr. Hayes gave a report of the proceedings at the London meeting of the parent society, embracing matters relating particularly to the new bee-disease—"black brood"—and the taking of honey. The prize-drawing for a number of bee-keeping appliances also took place.—GEO. HAYES, Secretary and Treasurer.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

AMONG THE BEES.

COBWEBS AND QUESTIONS.

[6637.] Many bee-keepers, especially in their novitiate days, are greatly troubled about many things which are really of so little importance that, to all intents and purposes, they may be utterly ignored. Ancient bee-books pictured spiders as deadly enemies of bees, but nowadays we never notice their existence. Their cobwebs in olden times were credited with being veritable death-traps in the apiary. We moderns are too busy or too wise to hunt for them, but if seen they are brushed aside. That would be my advice in regard to many other "cobwebs."

Many moot points should receive such summary treatment. The question of quilts crops up eternally. Should they be pervious or impervious? Should they be of cotton, linen, or a softer woollen substance? Can they be safely used in the shape of wood, glass, or celluloid? My dear Mr. Apprentice Bee-keeper, it is all a matter of taste and habit, mixed with *a little brains*. All do good and efficient work under proper management. An intelligent application of a little common sense in working each and all of these materials will make them a success in the hive. In future, when you find one bee-doctor advocating any one of these, don't leap to the erroneous conclusion that he condemns all the others.

Another "cobweb" protruding itself periodically is, How should our frames hang? Should they be parallel to or at right angles with the mouth of the hive? Which is best for the success and well-being of the bees? Which of the two

gives the most bees and the largest surplus? Which is most convenient for the bee-keeper, and which best aids him in successful manipulations? Why, Mr. Novice, *both* are best! That is, I don't believe but as good work can be done with the one as with the other. One or two points may be preferred by one set of bee-keepers in the use of one kind of hive, but to counterbalance them even their owners acknowledge some imperfections. In the other class of hive the good and bad points are there also, differing in kind only. In other words, neither type of hive is just quite perfect, but both are so near it that one need not worry over small cobwebs.

Should we use excluder zinc or should we not? is a hardy plant cropping up perennially. Yes and no! There you have it in a nutshell. If you find your system of management, when working for comb-honey, such that queens never invade the surplus-chambers, excluder zinc is out of place in your apiary. I never use it myself, never having found it a necessity; but I know many bee-keepers, working under another set of circumstances, who would not be without it, whatever the excluders might cost. But, when working for extracted honey, it appears to me a *sine quâ non* everywhere. Settle the question in your own mind: "Is an excluder an advantage to me and a help in securing the finest surplus?" If the answer is in the affirmative, use it; if in the negative, ignore it, whatever the doctors say.

Where should surplus-chambers be placed? Should they be what we call supers, and worked, as the name infers. above the brood-chamber, or should they be used behind frames, as occasionally in some hives of the combination type? Or can we safely place them below the body-box, where bees undoubtedly build comb best? Well, although wholly favouring the first style of management, which is now practised by 99 per cent. of the bee-keepers in this country, I would not utterly condemn the other systems because they differ from what I happen to view as the best. Believe me, Mr. Enquirer-after-Truth, wide-awake and capable apiarists would not go on persistently chasing a will o' the wisp. They find good in their system, or they would leave it severely alone.

Then all our bee-books advise us to place a second rack of sections below the first when the latter is about two-thirds full. I invariably place it above, for several reasons which in my opinion outweigh those given for the more orthodox practice. Latterly, quite a number have adopted the newer innovation because they find it at least as good as the older plan and more easily worked. Either course may at times have some drawbacks with both novices and veterans. *Try both*, working them side by side, and adopt the one which works best with you. That is the point where the "cobweb" comes in, and which calls up the questions! The personal equation, however, crops up eternally in bee-keeping; and, again, there is a very great deal in location.

Some favour a plain rack for working sections in, others work them in hanging frames. My own preference is for a simple case, holding twenty-one sections, with plain, unslotted zinc dividers between each row. Bee-spaces all round and between sections, and four-bee-way sections, with slots to correspond, are theoretically aids to communication. So are wire-wove dividers. But I work entirely with two-bee-way sections, and can see no difference in time taken, while I think sections are better finished, and I know they are cleaner. Yet I would not counsel one single bee-keeper to make any change. Excellent surplus can be obtained with all these appliances, and when better are found we will no doubt hear of them. But the time is not yet!

Should the walls of a hive be thick or thin? Fifty years ago it was advised that wood one inch up to an inch and a half thick should be used. Gradually a change came, till now we rarely find factory-made hives with wood thicker than half an inch. I am not aware that bees have suffered in any way from the innovation. But we are slowly working round to the use of an inner body-box, or at least double-walls-all-round.

That brings up another "cobweb" which has been brushed aside. Twenty years ago it was vehemently preached that cork-dust packing, chaff cushions, and other warm material should, as it were, envelop the bees when we put them into winter quarters. I will not say to anyone who believes in this as a necessity that he should cease to trouble himself with this laborious piece of grandmotherly manipulation. Most bee-keepers now recognise that the top of the frames is the point where care in packing pays best.—D. M. M., Banff.

WILL BEE-KEEPING CEASE TO PAY?

[6638.] I was much interested by Mr. W. J. Farmer's letter (6593, page 38) dealing with the above subject. During the last two or three years tons of foreign honey have been sold in London as "British," and as the evil is increasing, I am not surprised that it is beginning to tell upon British bee-keepers. The foreign honey I have in mind is usually sold retail at 6d. or 6½d. per pound, and in many cases the glass jars or bottles in which it is put up are labelled "Pure

British Honey." I had an argument some months ago with a man who was selling a quantity of Jamaica honey as British, and his contention was that as Jamaica is a British possession he was correct in calling it British produce.

On the other hand, I do not agree with Mr. Farmer when he says: "At a low price the consumption does not appear to be stimulated in proportion to the increased produce." I maintain that the consumption of honey has increased enormously during the last five or six years, but the increase has been with the foreign honey. I know several firms in London who used to sell English honey who now stock nothing but the foreign article. I enclose name, &c., for reference.—J. C. M., London, N.E.

CLEANING UP SHALLOW-FRAMES AFTER EXTRACTING.

[6639.] Have you or any of your readers had an experience similar to the following?—At the end of last year's honey-season I replaced on one of my stocks a rack of shallow-frames to be cleaned up after going through the extractor. A little later I was about to remove the rack, but, finding a large number of cells sealed again, I decided on trying the experiment of leaving the rack on the stock for the winter. During our recent sunny weather I took out several frames to see if the bees had consumed the supposed stores. To my surprise, on piercing the sealed cells with my knife-point, I found five out of six quite empty. A few contained a little honey, while still fewer were full. There were no perforations in the capping, nor had the mid-rib been anywhere punctured. I should be glad to have some explanation of these curious circumstances.—W. H. H., Hayes End, Uxbridge.

ROSS-SHIRE NOTES.

PROFITABLE BEE-KEEPING ACROSS THE BORDER.

[6640.] Once again we have experienced a severe and prolonged winter in these parts. Last week our upland roads were completely blocked, and even yet snow lies deep in many places.

I anticipate another favourable honey season, and my optimism has taken practical shape in the form of extra lifts and section-racks to hold the forthcoming crop. Bees have had few opportunities of flying for some time, but all show signs of life, although it is too soon yet to gauge the strength of any but the most powerful colonies. Four particular stocks appear to be making great headway, although outside all seems quiet. With twenty or more frames well stored, to encourage early progress, brood-rearing was indicated early in the month by a perceptible warmth of the quilting, and at the present time the temperature beneath the chaff-cushions is more akin to that of early summer.

A recently-expressed fear in your pages as to bee-keeping ceasing to pay in the near future has evoked a more or less sympathetic chorus from fellow-sufferers who have had difficulty in disposing of their honey at remunerative rates. Wherever the shadow of a declining honey-trade may have fallen it is not in evidence on this side the Tweed; vainly do we search the B.B.J. for Scotch bee-men contributing jeremiads about drooping markets. Still, Northern bee-keeping has had its troublous times, with honey scarcely saleable at one period, while succeeding seasons were almost honeyless and bees died out wholesale. That was indeed our darkest hour, but it proved the precursor of brighter days and more favourable seasons, rendered additionally profitable through the utter ruin of apiaries run on unbusinesslike methods.

Prices for clover sections, after oscillating wildly between 6d. and 1s. 6d., have now settled down at 9d., or 1s. retail, for unglazed sections. At the same time the demand seems ever extending, and in my own experience, although steadily increasing my stocks, I am each year unable to supply all the orders received.

As for real heather-honey, the Scotch producer of this article has, so to speak, the ball at his feet. London firms may offer the real thing in barrels at less than candy prices, and the society for the suppression of heather-honey prices (headquarters, Pickering, Yorks.) may strive as to who can sell it cheapest, but the Northern bee-man heeds them not. And why should he, when his produce never lacks buyers at top prices? A quantity of my last season's crop found customers not far from Pickering, but at rather more than double the figure asked by Pickering philanthropists. I have reason to believe that quite a number of my countrymen invade the Southern honey-markets to some purpose, and secure better prices than the native producers, although they do not add insult to injury by commenting on the fact. The reason why must be that the hall mark "Prime Scotch," whether applied to honey, meat, or whisky, means the best; and the best of everything never lacks purchasers. Unhappy Southerners, lamenting over indifferent returns, why not come over the Border and share in the joys and profits of honey-raising 'mong the purple hills of Bonnie Scotland? We have room for more bee-keepers of the right sort, so let them come, and fear not! Our scenery, our

bees perhaps, may be wild, but the people are now quite civilised. The Highland welcome no longer takes the form of cold steel, the nervous Cockney tourist seldom has occasion to stop his ears against the bagpipes' maddening din! The wearer of the national dress even is getting to be quite a *rara avis*, particularly so as regards the bee-keeping fraternity, and certainly the idea of a kilted individual running an apiary with any degree of comfort requires a considerable effort of the imagination, does it not?—J. M. ELLIS, Ussie Valley, N.B.

ZINC COVERING FOR HIVE-ROOFS.

CENTIGRADE V. FAHRENHEIT.

[6641.] As your correspondents appear to continue their speculations and assumptions respecting the contents of my letter on page 37, let me say that the tests were carefully made, and that the figures given were those registered by an instrument sold to me ten years ago as a "Centigrade thermometer." My knowledge of the different scales was limited to the figures indicating freezing points, and that the Centigrade degree was slightly larger than the Fahrenheit. At the present moment (as I write) the instrument, in an unheated room, stands at 30 deg. This disposes of the suggestion that I had mistaken the scale. But, be that as it may, the thermometer told me what I wanted to know and what I thought would interest your readers, viz., that the pure, unpainted metal caused a great increase of temperature inside the hive. Your critical correspondents seem to have overlooked the main point of my letter, and for this reason I did not reply, having no doubts in my own mind as to the accuracy of my tests; nor was there any "slips of the pen."

I may say the tests made were the outcome of a conversation I had with one of the best-known experts of the day regarding the merits and demerits of zinc covering for hive-roofs, and the conclusions he arrived at were completely verified by my experiments.

I now leave the matter for Mr. Crawshaw and his fellow critics to settle among themselves or with the makers of the thermometer, which would appear to be a "hybrid."—W. H. WHITE, Beds.

PRESERVATIVES FOR HIVE-WOOD.

[6642.] Your issue of January 31 has been forwarded to us by one of our clients, and the discussion with regard to preservatives for hive-wood which appears therein is of interest to us as the manufacturers of "Solignum."

It is not for us to discuss the merits of one preparation over another. We may say, however, that "Solignum" has been submitted to the most severe tests, not only in this country, but abroad, where it is subjected to severer climatic conditions, and has come out successfully. We can guarantee that in every respect it equals any of the preparations named, and possesses advantages over them, being moderate in price and obtainable in various shades. Judging from the correspondence, there should be a considerable opening for the use of this preparation amongst bee-keepers, and we should like to associate ourselves with this class of buyers.

We do not know if you undertake to supply your subscribers with articles, as is done by several agricultural journals, obtaining thereby a special discount for your buyers. If so, we would be prepared to enter into an arrangement of this sort, and would further consider the question of advertising in the BEE JOURNAL in order to bring the preparation before your readers.

We shall be pleased to send samples or undertake any experiments that may be deemed necessary to give you confidence in the article as being suitable for the purposes for which you advocate its use.—MAJOR AND CO., Ltd., Hull, February 28.

[Not being dealers in bee-appliances of any kind, we could not undertake the sale of "Solignum" as proposed. On the other hand, we have no doubt that our advertisers who are appliance dealers would gladly stock the preparation—on the conditions named—if there was a demand for it. Thus "Solignum" could be advertised as being obtainable from all dealers advertising in the B.B.J.—EDS.]

[6643.] Would your correspondent "A. H., Wavendon," who writes under the above heading on page 66 of the B.B.J. for February 14, please explain more fully for the benefit of readers—myself amongst them—what he means by "seasoned linseed oil"? I use myself boiled oil with best white lead and driers bought from the local ironmonger, but would be glad to use something really better if it can be easily obtained.—J. LONG, Hants, March 1.

CURING ROBBING.

[6644.] The following plan has been perfectly successful with me:—When I notice a hive being robbed I get some flour and dust the bees on the alighting-board and those hovering around; I then look to see where the floured robbers come from. This ascertained, I exchange the

hives, and leave them so for two or three days, and then replace as before for the same period, after which, if not satisfied with appearances, I again exchange. This, of course, is only practicable in one's own apiary.

I notice that our Editors advocate the use of fewer wraps above frames in summer than in winter, and I ask why? Will not the material that keeps out the cold in winter keep out the heat in summer? It is so with the thatched roof of a building to my knowledge, and I think it should do the same with bee-hives, for even in the middle of a hot day I have found the wraps on a strong stock cool, though it is, of course, bad management to open a hive in the sun on a hot day.

The "kinks" from Dr. Miller in last week's B.B.J. are very interesting, though my experiences differ in very many of the "kinks." Though bees are often on the wing here just now, there is no forage except chickweed.—A. H., Wavendon, Bucks.

FOUNDATION STRETCHING.

[6645.] Now that the time for renewing brood combs is approaching, may I be allowed to recommend a trial of Mr. Palmer's simple device for preventing stretching of foundation? I gave it a trial last season, and it fully answered my expectations. Since using it I have not been troubled with drone-brood in the centre of worker combs—a great nuisance when building up strong stocks. I have combs before me with every cell perfect, not a drone cell in the lot. Not only is it good for swarms or driven bees, but will be found of especial benefit when cutting out patches of drone cells. The worker-cell foundation can be held in its place until fixed by the bees without any fear of it falling out. I have quite a number of these spoilt combs on hand, but expect, with the aid of the device, to make them fit for use again. It is a good thing and worth using.—W. J. Fraser, Cumberland, March 4.

SOME SOUNDS OF THE BEE.

The following interesting little article, from the pen of a former reader of and contributor to the pages of the B.B.J., appears in the current issue of the *South African Poultry Journal*, just received:—

"To distinguish all the sounds of the bees would require a sense of hearing keener than that possessed by human ears, but even the dullest ear, after long listening, becomes familiar with many bee-notes, and finds meaning in what to the novice is nothing but a bewildering confusion of sound

"In practical bee-keeping there is nothing the beginner will find of greater service than to learn to interpret these various sounds from the everyday happy hum of the bees in the flowers, varying as it does in intensity and eagerness, but expressive always of satisfaction and delight, to the strange peep-peep of a princess in her, as yet, unopened cell.

"When the weather is warm and honey plentiful each bee leaves the hive with a flourish 'Whizz, I am off!' exclamation; or is it a hymn of gratitude for a new day and its sunshine?

"The noonday play-spell is a living song of gladness—an ariel dance in which the young bees join and learn the joys of flight—a thorough ventilation and refreshment of the hive, but often a source of consternation and alarm to the beginner in bee-keeping, for he is sure that in all this uproar his bees are swarming or robbing or doing something dreadful, until he discovers it is only play and that each hive repeats this performance at the same time every day. To the uninitiated the noise is suggestive of swarming, and he watches with some concern until the bees have gone back and the usual quiet is restored.

"One of the most interesting sounds is the 'call of the queen,' or the 'call of the home'—the sound that when a swarm is being hived leads them up the entrance in such unerring lines.

"All these are sounds that one is glad to hear, but there are unpleasant sounds as well—the sound of the robber, the high angry note of an enraged bee, the bee that has a grudge against you and is determined instantly to pay it off. A bee 'calls out' when it is being captured or crushed and a queen when she is frightened. Bees annoyed by ants call in distress and spit at their tiny tormentors, like defiant kittens. The wail of a queenless colony is easily known, and utterly sad, though most pathetic and pitiful of all is the sound of bees that have lost themselves in the rain or darkness."

[The writer of the above, Miss Mary Ritchie, is now science mistress at a college in South Africa, and will be remembered as an esteemed contributor to our pages a year or two ago.—Eds.]

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Sections and Separators (page 63).—Slotted tin dividers, in common with the old unslotted variety, do not give access from row to row of two-bee-way sections. I believe that there is a slight advantage in this accessibility of four-bee-way sections, particularly where these are tiered up two or three racks high, and I am

wondering whether the advantages of each section might be obtained by introducing a short bee-way, say 1 in. long, into the straight sides of the two-bee-way, thus forming a kind of hybrid variety of the two patterns. A specimen I have made appears to have lost practically nothing of the protective value of the long side for the purposes of handling, piling, and glazing. By the way, if two-bee-way sections are slid upon the table on their no-bee-way sides it is impossible for them to damage one another, even if slightly bulged.

Size of Brood Frames (page 64).—It is already realised that it is not only strength of colony or prolificness of queen which is responsible for heavy returns, but that, other things being equal, it is apparently the *balance* of population which really affects the yield, and this is definitely obtained by some big bee-men by the invariable means of artificial swarming. So, too, the exact size of brood-frame is not the sole key to the door of success. Our friend "J. M. E." (Ussie Valley) used to be rather keen (March, 1903) on a frame much larger than the B.B.K.A. standard. Now he seems to find a smaller the most satisfactory for his methods. After all, the particular crop and the system of management must have their say in the matter, but is it possible that the standard frame is not so far out for general use?

Foul Brood (page 64).—Does Mr. Simmins wish to prove that remedies are unnecessary for the cure of this disease? He instances a case of natural cure for which it is impossible to formulate a satisfactory theory. But, admitting its truth, does he suggest that bee-keepers should wait for such cures? Doomsday is perhaps a long way off, but that would be the date of the extinction of the disease. The whole subject seems to me of such importance, and some of his conclusions so inconclusive and misleading, that, failing some more capable critic, I will endeavour to deal with them at greater length than is possible in this column.

Birds and Bees (page 66).—May we hope that "A. H." is now quite convinced that it would be murder to dispose of the blue tits? His "black-cap tit" (page 77) is probably the Great Tit (*Parus major*). All the tits do at least more good to the community than harm to the individual bee-keeper, and it is a question whether we have the moral right to dispose of everything which appears to claim the right to live with us on the earth. At least, we have often disturbed the balance to our own serious ultimate disadvantage. Many instances might be given. There is no doubt that some of the plagues of Egypt were directly traceable to short-sighted edicts of the Pharaoh! The latest scientific (!) suggestion is to exterminate all the game in South Africa in order to combat the tsetse fly!

Paint for Hives (page 66).—Definite experiment has proved that paint made with graphite is far superior to that made with lead. It is more flexible, adhesive, and durable, and goes further. It is, however, I believe, only obtainable in dark colours, and is made by the Joseph Dixon Crucible Co.

Observation Box (page 74).—May I gently point out to No. 6627 (page 74) the disadvantages of his box? Observation would necessarily be confined to a recently disturbed, and therefore abnormal, comb, and the apparatus is so elaborate that it would demand too much work for the amount of observation possible. The whole of the observations, including oviposition, may be made far more effectively in a proper observatory hive, indoors and at leisure. As to chilled brood, a little more experience will remove both that bogey and the "terror of manipulation" from the mind of the novice. If I am not wrong in supposing him to be a beginner, may I cap his quotation from the melancholy prince, and urge him to "take arms against a sea of troubles," and "though best safety lies in fear," not to dread the "potent poison," but to bravely "bear those ills we have than fly to others that we know not of."

A Molester (page 78).—At first glance I did not appreciate the obvious fact that this meant "one who molests," and I consequently had a weird dream of a "mowdiewort" catcher, shedding his traps in flight from the top of a volcano, pursued by a swarm of irate bees, presumably Vesuvians, and further chased by the irater writer, armed with an enormous uncapping-knife, and wielding a spirited pen dipped in a fiery drop of the crater! Sorry!

Queries and Replies.

[3472.] *Failure in Wintering Driven Bees.*—I shall be much obliged if you will examine enclosed frame of comb and tell me the cause of death of the whole stock of bees from which it was taken. I may explain that in August I bought five lots of driven bees; these were united early in October by the Worcestershire expert, and one lot put into a skep, the other into a frame-hive. Both lots are dead, although they had plenty of flour-candy left in the hives when I examined them on February 25. I send you the frame containing the most cells in which brood has been reared; there was only one other frame that had any of these cells on it. Will you therefore please answer the fol-

lowing questions in the B.B.J. at your earliest convenience?—1. What has caused the death of bees? 2. Would it be safe to give the remainder of the candy left to other bees as food? 3. Will it be safe to use the remaining combs from the beeless hive to put an early swarm on it? In three of the frames the comb foundation is only partly drawn out, while two are about half-full of honey of a pearly whiteness. I may add that the Worcestershire expert expressed great doubt of the bees in the hive surviving the winter, owing to their being so few in number.—L. G. T., Member Worcester B.K.A.

Reply.—The few dead bees on comb sent afford no information with regard to cause of death. An inspection of the frame of comb, however, is more helpful in diagnosing the case, and shows plainly your lack of experience in bee-work. The full sheet of foundation is only partly built out, and there seems to have been no attempt to embed the wires in the foundation as it should be. Only a patch of brood has been reared in the comb, plainly showing that there has been very little brood reared. We are also led to assume that the bees had been wintered on flour-candy, which is quite unsuitable as winter food for bees. We also observe, from the appearance of top-bar, that a rack of sections has been given to the driven bees. Why this was done we cannot understand. Our impression is that the bees have died from cold and hunger. The reply to queries 2 and 3 is in the affirmative.

[3473.] *Keeping Bees Away from Home.*—Will you kindly advise me as to the best course to take under the following circumstances? I began bee-keeping by establishing two stocks in frame-hives at Leytonstone some time ago, and was very successful with them, thanks to the instructions received from the "Guide Book" and in reading the Bee Journal. Unfortunately, however, I was compelled, for business reasons, to leave Leytonstone and take up my quarters at Camberwell. This change, of course, completely did away with any chance of honey-getting, unless I could give the bees super-room well in advance and so prevent swarming. I could not find the time to see after the bees only at week-ends. Both stocks have wintered well, and if I could get the bees to take to supers without swarming I might manage. Otherwise I shall have to sell them off, which I would be very sorry to do unless compelled, as there is no place at Camberwell where I could keep them. Your advice will much oblige.—T. R. Blackwell, March 4.

Reply.—Under the circumstances detailed we cannot recommend any plan that would be free from great risks in many directions. Your best plan would be to try and find a purchaser living within easy distance of where the bees have done well in former years, and suspend your bee-keeping till you make a re-start with more favourable surroundings.

[3474.] *Spring Dwindling.*—I enclose a specimen of dead bees taken from the floor of my hive. I made an examination of the frames to-day, and the bees seem to be all dying. There is only about a handful of bees left, but some of them are fairly lively. The queen simply crawls about, and seems to be entirely neglected by the bees, but when placed right in among them they began to notice her. There is plenty of food in the combs, but the queen seems to have stopped egg-laying altogether. In fact, I could not find a trace of either eggs or brood. I calculate that the queen must be about four years old. Kindly let me know in the Journal what you think is the cause of it all. It seems to me that the queen is past egg-laying, and that the workers have reached the end of their lives.—Wm. Williams, Barry, March 2.

Reply.—The signs and symptoms indicated make it clear that the queen is old and worn out, as might be expected if your calculation with regard to age is correct. Bee-keepers should bear in mind that, as a rule, stocks headed by queens over three years old are perfectly useless, because of the spring dwindling which is inevitable in such cases.

[3475.] *Transferring Bees to Frame-hives.*—Would you kindly give me some help by way of information about my bees under the following circumstances?—Last October I had two very strong stocks of bees brought to me, one in a tumble-down old box 18 in. high, 12 in. broad, and 15½ in. long, the front part; the other in a circular wooden cheese-box. I have been recommended to put both lots of bees into frame-hives. I have already had one of these with bees in it for about a couple of years past, and have the opportunity just now of securing two frame-hives discarded by a bee-keeper who has left the neighbourhood, and will sell them cheap. Will you therefore please tell me how I can get the bees into these hives if I purchase them? (I know they will want nicely scraping and painting, as I did once before.) Could I manage it by myself? The hives are both too heavy of bees for me to lift. If I knew exactly how the process has to be done I could get a labouring man near, who is not afraid of bees, to help me. When, too, ought they to be moved? I should like it done before May, else I must postpone matters till after the first week in June, for I shall be away from home during

the whole of May.—(Miss) K. M. A., Bridgnorth, March 1.

REPLY.—We strongly advise you not to undertake so difficult an operation as that proposed. It would be a difficult task for an experienced bee-keeper, and quite beyond the powers of a lady amateur. Your best course will be to allow the bees of both lots to swarm naturally, and hive them in the frame-hives, prepared properly with full sheets of foundation. Then, twenty-one days after swarming the bees may be driven from the boxes, and either added to the swarms or dealt with as separate stocks in new hives, as may be most convenient. Be most careful in disinfecting the secondhand frame-hives referred to, if there is any foul brood about them, otherwise they would be dear at a gift.

[3476.] *Beginning with Frame-hives.*—I am about to make a start at bee-keeping. My father has had bees in straw skeps for about nine years, and keeps as many as fifteen lots at a time, but they have yielded no profit to him; in fact, he has given them very little attention. At the present time we have nine stocks in skeps. 1. I have made four shallow-frame hives for extracting. I want to transfer the bees in skeps to them, if you will tell me the best time to operate, to see if I cannot make a little profit from the bees, as we are not overburdened with cash at our house. This is not a very good bee-district, I fear, there being too many market-gardens about; but we have a fair amount of heather growing within a radius of four or five miles, so I want to try my luck with the bees. 2. I send a few dead bees, and will be glad if you will say what kind they are. 3. I would also like to know how to tell foul brood and how to treat it, if not too much trouble. I send name for reference, and sign—NOVICE, Irlam.

REPLY.—1. The month of April is the best time for transferring. 2. The bees are the ordinary or native kind. 3. It would take too much space to tell you about foul brood in this column. You need a "Guide Book" for this and for the best method of transferring bees from skeps to frame-hives.

[3477.] *Claiming for Damage to Honey.*—I recently bought a parcel of honey in sections and glass jars. Many of the latter had cork dust and wasps on top of the honey in jars when received, while the sections were packed in a box without any straw or soft material to rest on, the result being that one-fourth were broken. They were sold as "carefully packed and marketable." I have made a claim for bad packing and deterioration by cork-dust and wasps, and so I ask:—1. Am I justified in doing so? 2. Is this the way to pack sections to send by rail? Please reply to—D'ARGENT, Croydon.

REPLY.—1. Yes, if palpable carelessness can be proved. 2. We hope not, otherwise honey-selling would be a poor business.

[3478.] *Suspected Dysentery.*—Would you be so kind as to let me know through your most interesting pages what is the best course to take in the following circumstances? Yesterday (February 28) the bees of all my five stocks were flying freely, but one of them showed unmistakable signs of having dysentery. Should I give them a clean hive, &c., on the next fine day, or is it too early in the year to disturb them? If so, what is the earliest date on which it would be safe to commence to cure them? I have the "Guide Book," and will most certainly follow its advice, only I am not certain whether it is quite wise to see to them at present.—G. E. H., Glos., March 1.

REPLY.—If the stock is really bad with dysentery, no time should be lost in dealing with the bees as directed in the "Guide Book," but before doing so we should examine to see if the hive interior and the combs are fouled by the bees' excreta. If not, the trouble feared may pass off without treating now that the bees have opportunities of a cleansing flight.

[3479.] *Ownership of Bees.*—I write to ask your advice on the following:—I sold off the whole contents of my apiary about two years ago, but have started again with two hives, not being able to keep more than two under agreement with my landlord, owing to objections raised by my next-door neighbour. I have therefore arranged with a man about two miles from here for room to place some more hives in his orchard. I also intend to teach this man what little I know about bee-keeping, as he already owns one hive. 1. My present difficulty is to know what sum per hive per annum would be fair to offer him for the accommodation. 2. Also will the receipt for such payments, if shown, be enough to establish my claim to ownership of such hives, in case, say, of a dispute between my friend and his landlord or any other possible creditor, or ought there to be a stamped agreement? Thanking you for answering the above in the B.B.J.—H. T. ICINGBELL, Taunton, March 4.

REPLY.—1. We should think that one shilling per hive about fair for standing-room. 2. Legal points are best entrusted to a solicitor, who would tell you how to word an agreement covering the several risks involved. Don't forget the adage, "The man who becomes his own lawyer has a fool for a client."

[3480.] *Moving Bees 100 Yards.*—Will you kindly say in next B.B.J. if it is now too late to move my three hives of bees from their present location to another place about 100 yards away? I could put some obstacle in front of the doorways of hives, such as the leafy branch advised in "Guide Book." There is, of course, no chance of moving the hives by degrees all that distance, and I should be sorry to lose many bees, hence my asking you for advice as to the best course.—A. F. B., Harrogate, Yorks.

Reply.—If your branch is sufficiently "leafy" to cause the bees some trouble in passing through the leaves, there will be very little risk or even loss of bees.

WEATHER REPORT.

Westbourne, Sussex,

February, 1907.

Rainfall, 1·50 in.
Heaviest fall, ·34 on 12th and 19th.
Rain fell on 13 days.
Below average, ·43 in.
Sunshine, 89·9 hours.
Brightest day, 28th, 8·4 hours.
Sunless days, 7.
Above average, 6·2 hours.
Maximum temperature, 53° on 17th.
Minimum temperature, 22° on 23rd.
Minimum on grass, 18° on 23rd.
Frosty nights, 15.
Mean maximum, 42·6.
Mean minimum, 31·9.
Mean temperature, 37·2.
Below average, 1·0.
Maximum barometer, 30·55 on 28th.
Minimum barometer, 29·17 on 12th.

L. B. Birkett.

FEBRUARY RAINFALL.

Total fall, 1·50 in.

Heaviest fall in 24 hours, ·33 in. on 19th and 20th.

Rain fell on 12 days.

W. Head, Brilley, Herefordshire.

Notices to Correspondents.

*** Mr. Albert E. Sawyer, dating from Stroud, March 2, writes as follows:—"I have recently come to reside in Stroud, Glos., and should be glad to make the acquaintance of a brother bee-keeper here in order to gain some information about the bee-forage of the district, as I am thinking of removing my apiary, which is still at Cirencester, to Stroud. You may remember inserting a view of same in B.B.J. of March 10, 1904. I should consider it a great favour if you will insert a line in B.B.J. mentioning the help I am seeking for."

J. D. (Shrewsbury).—*Selected Strains of Bees.*—We make it a rule never to personally recommend either the queens, bees, or appliances of any particular breeder or manufacturer who advertises in our pages. To do so would not only be obviously unfair to others, but would lead up to constant discussion. Your best plan, therefore, is to read what has appeared in our pages regarding selected strains of bees. It is certainly useful for queen-breeders to give definite names to the selected varieties, so that purchasers may know exactly what they are buying, and estimate their respective value from results. Full particulars of the bees you name will be found on page 131 of last year's B.B.J.

F. D. (Cambridge).—*Secretaries of B.K. Associations.*—1. B.B.K.A., Mr. Edwin H. Young, 12, Hanover Square, London. 2. Cambridge B.K.A., Mr. G. E. Rogers, Beeholm, Newnham Croft, Cambridge.

S. K. Saxelby (Birmingham).—*Bees Found Dead in February.*—So far as we can judge, there is no cause for alarm in the "one suspicious cell" forwarded. We are obliged to give a qualified opinion only as the cell had been thoroughly probed before despatch, no trace of any contents being discernible. If the stock was weak and signs of dysentery visible, it fully accounts for death of the bees.

J. B. (Llandrindod Wells).—*Lantern-Slides on Bees.*—Messrs. Newton and Co., Fleet Street, London, will send their list of lantern-slides on bees if applied to. Mr. W. Herrod, apiarist, Luton, Beds., has slides illustrative of the work of bees in *fertilising* flowers.

A. J. H. (Chadwell Heath).—*Cane-sugar for Bees.*—The sample is no doubt cane-sugar, but, being unrefined, is less suitable for bee-food than refined white crystal sugar. Candy especially is much better when made from either loaf or white crystals.

R. P. Pike (Durham).—Your sample of bee-candy has not, we think, been boiled long enough, or the fire has been too slow for candy-making. It will be quite hard when the moisture evaporates.

D. E. W. (Sussex).—*Candy for Syrup-making.*—1. The candy, if not burnt, will need no more than stirring in hot water till it is of the consistence of ordinary sugar-syrup to be suitable as bee-food. 2. Sample of comb sent shows

the stock to be very badly affected with foul brood, and should be dealt with as a "bad case." Delay in reply is owing to the sample having got mislaid.

Suspected Combs.

T. W. Cox (Birmingham).—The sample of comb sent is badly affected with foul brood of old standing. On no account should unconsumed food from the hive be given to other lots.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

ONE STRONG STOCK of healthy Bees for Sale, hive nearly new.—BEE-KEEPER, 99, Albemarle-road, Beckenham. w 73

LIGHT-COLOURED HONEY, in bulk, 54s. per cwt.; 1 lb. screw jars, 8s. per doz.; sample, 2d.; in quantities to suit purchasers.—Apply, HON. SEC., Lincs B.K.A., Tothill, Alford w 72

WELL-MADE double-walled hives, with strong, healthy Italian hybrid bees, for sale.—Write 13, The Circus, Greenwich. v 93

EXPERT WANTED, for Spring and Autumn Tours.—Apply, R. H. COLTMAN, Sec. Derbyshire B.K.A., 49, Station-street, Burton-on-Trent.

LAYING COMPETITION.—2 guinea prize to the first pullet laying from eggs supplied by me from Gold and Silver, Silver-pencilled, and Partridge Wyandottes. Sittings, 5s. and 10s.; Utility Wyandottes and Buff Orpingtons, 3s. sitting.—AVERY, Armathwaite, R.S.O., Carlisle. w 74

WANTED, a Stock Hive of Ligurian Bees.—Address, MR. W. BAMFORTH, 26, Margon-road, Charlton. w 57

WHAT OFFERS for 15 Shallow Frame and Tall Section Crates combined, nearly new; 1 large geared Extractor, and 1 Ripener; also a few dozen Bar Frames?—DAVIDSON, Dacre, Leeds. w 58

STOCK on eight Frames, also empty "Wells" Hive, complete, £2 lot.—PICKERSGILL, Bishop Monkton, Leeds. w 59

BEESWAX (½ cwt. of), good colour, 1s. 6d. lb.—HARRISON, Bee Farm, Middleton, Pickering. w 60

LARGE CANVAS BELL TENT, with pole, ropes, &c., complete, 25s.; Sections, 8s. 6d. per doz.; Stocks, in Skeps, 12s. 6d., 13s. 6d.; ditto, in Standard Frame Hives, 25s.—W. WOODS, Normandy, Guildford. w 61

HONEY for sale, in 30 lb. tins; sample, 3d.—MISS BOURNE, Atherstone. w 62

LIGHT GRANULATED HONEY, in 1 lb. screw caps, at 7s. 6d. doz., to clear.—W. CANHAM, Fordham-road, Soham, Cambs. w 63

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw cap jars, 7s. doz., 77s. gross; ½ lb. ditto, 4s. 6d. doz., 45s. gross; 14 oz. ditto, 6s. 6d. doz., 72s. gross; Honey in bulk, 48s. cwt.; pure breed sitting eggs, 4s., guaranteed.—TURNER BROS., Sandpit Poultry Farm, Croydon. w 65

GOOD PAINTS, ready mixed, all colours, for Hives, Greenhouses, and general purposes, 3d. lb., in 7 lb., 14 lb., and 28 lb. lever-lid tins. Orders 50s. and upwards carriage paid.—W. O. JONES, Caerleon, Mon. w 66

STRONG STOCK, "Sladen's Golden Prolifics," in Hive, almost new, 30s.; 2 1906 Hybrid Queens, 6s. each, guaranteed healthy; "British Bee Journals," from 1903 to 1905, what offers?—POTTER, 73, Seaview-road, New Brompton. w 71

Special Prepaid Advertisements.—*Continued.*

SPLENDID QUALITY HONEY, 4½ dozen screw cap jars, nominal lbs. What offers?—READ, Brundish Hall, Framlingham. w 67

TO LET, Hampshire, compact Fruit and Bee Farm, growing neighbourhood, near large military district, cottage, good outbuildings, 8 acres land, part well stocked strawberries, raspberries, currants, gooseberries, 60 hives Bees, all appliances connected with the trade, incoming by valuation. Low rent; early possession. Illness cause of disposal.—Apply C. C., care of "British Bee Journal" Office, 8, Henrietta-street, London, W.C. w 68

FOR SALE, 4 Stocks of Bees, in Blow's Bar-framed Hives, splendid returns last season.—JENKINS, Maybush, Southampton. w 69

GOOD STRONG STOCKS BEES FOR SALE, in 1905 new straw skeps, 10s. 6d. each.—Apply, MANAGER, Lark Cycle Works, Willingham, Cambs. w 70

SKEPS OF BEES, sound, heavy, healthy, guaranteed, 10s. 6d. each. — POSTMASTER, Haconby, Bourne. w 64

FIVE STOCKS OF BEES, guaranteed healthy, excellent Standard Hives, 1906 Queens, imported Italian, Carniolan, 3 Hybrids; Taylor's 27s. Extractor, 20s.; Taylor's Wax Extractor, 7s. 6d.; Ripener and Sieve, 6s. 6d.; Uncapping Knife, 1s. 6d.; Canadian Feeders, 1s. 9d., containing 10 boxes; 8 drawn out Shallow Combs, 5s. each.—PIDDUCK, Association Expert, Sunnyside, Alsager, Cheshire. w 75

BLACK LEGHORNS (Melbourne and Sturges'), White Leghorns (Sturges'), White Orpingtons (Linden's); every bird in above pens is of pedigree laying strain, from eggs purchased direct at 21s. sitting; eggs, 3s. 6d. ditto, unfertile replaced.—E. PIDDUCK, Association Expert, Sunnyside, Alsager, Cheshire. w 76

230-EGG Strain Anconas; 250-Egg Strain White Leghorns; early chickens pay best. Send for list. Sittings, 4s.—SWAFFIELD, Kingstone, Hereford. w 54

CHAPMAN HONEY PLANT SEEDS, 6d. and 1s. packets, post free.—E. H. TAYLOR, Welwyn, Herts.

SIX nearly new "W.B.C." Hives, with Bees, strong.—M. LAMBOLL, Sydenhurst, Chiddingfold, Surrey. w 20

CYCLES.—Some grand Machines now for Sale, from £5 10s. upwards, with five years' warranty.—Particulars, apply RICHARDS, Postman, Kingswinford, Dudley. w 25

"NEVER SWARM" SYSTEM, twelve years' absolute success and double surplus, free, 3½d.; Spring Feeders, "The Best," refilled without removal, 1s. 6d.; 12, 16s., free.—HARRIS, Wavendon, Bletchley, Bucks. w 30

ENGLISH HONEY, 28 lb. tins, 6d. per lb.; sample, 2d. Cash or Deposit System.—STEVENS, Latimer Apiary, Chesham, Bucks. w 27

CARBOLINEUM, the best preservative for Bee-Hives, Poultry-Houses, &c., 1s. 3d. per quart, 3s. 9d. per gallon; tins free, carriage paid; paints, &c., of best quality.—GURTH COOPER, 15, Cheapside, Derby. v 65

8 STOCKS, in Standard Hives; 1 ditto, Skep, 56 drawn-out Shallow Frames, all cheap; must sell, owner going abroad, all new since 1904.—WRIGHT, Oscroft, Tarvin, Chester. w 56

FINE WHITE CLOVER HONEY, in 28 lb. tins, 5d. per lb.; sample, 3d.—LILLEY, Mill Farm, Dean, Kimbolton. w 32

HIVES, 7s. 6d., satisfaction guaranteed, for ten Standard frames, made by machinery, 9in. lift, roof, and porch, painted two coats 2s. 6d. extra, cash with order.—COX, Smallbrook-street, Birmingham. v 88

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The annual general meeting and Conversazione of the parent Association, to be held in the board room of the R.S.P.C.A., 105, Jermyn Street, London, on Thursday next, March 21, will no doubt be especially interesting, and we earnestly hope to see a numerous attendance thereat.

We print below the full agenda, and it will be seen, owing to the death of the Baroness Burdett-Coutts, a new president will be chosen. The Master of the Worshipful Company of Wax Chandlers hopes to be present, and it goes without saying that the meeting will voice the opinion of all British bee-keepers in giving their president-elect a hearty welcome.

It may not be generally understood that members of county associations and their friends who are starting bee-keeping, with the intention of joining either the parent body or its affiliated societies, are invited to attend the Conversazione, which begins at 5.30 p.m., or on the conclusion of the business of the annual meeting.

AGENDA.

1. To read Minutes of the last Annual General Meeting.
2. To receive the Report and Balance Sheet issued for the year 1906.
3. Vote of thanks to the retiring Council and Officers.
4. Vote of thanks to the Council of the Royal Society for the Prevention of Cruelty to Animals for the gratuitous use of their Board Room for Council and other Meetings.
5. Election of President in succession to the late Baroness Burdett-Coutts. (The Master of the Worshipful Company of Wax Chandlers is nominated by the Council.)
6. Election of Vice-Presidents, Hon. Members and Corresponding Members, Treasurer, Auditor, and Analyst for the year 1907, in accordance with Rules 5 and 9.
7. Election of the Council for the year 1907.
8. Alteration in the Rules proposed by the Council, viz.:—

   To add to Rule III. the words:—"The Master of the Worshipful Company of Wax Chandlers for the time being shall be the President of the Association."

   To strike "President" out of Rule IX.
9. Other business (if any).

AT CLOSE OF THE GENERAL MEETING.

Meeting of the Council for 1907:—To elect Chairman, Vice-Chairman, Committees, and New Members: to receive Report of Finance Committee; to fix dates for Second Class Examinations, Council and other Meetings, during the ensuing year; and other business (if any).

5.30 p.m., Conversazione. (Refreshments will be provided.)

Subjects for Discussion:—(1) "Brood Diseases and the recent American discovery by Dr. Phillips and Dr. White." (Introduced by Mr. T. W. Cowan, F.L.S., F.G.S.) (2) "What points are most important to be kept in view by Queen Breeders?" (Introduced by Mr. T. I. Weston.)

NEW LIGHT ON BROOD DISEASES.

A report has just been issued of the investigations made during 1905 in the Imperial Biological Institute of Dahlem, near Berlin. In this report Nos. 24 and 25 are of special interest to bee-keepers, as they treat of the experiments made on diseases of brood. The first treats of foul brood of bees, and the last of what has been called "Aspergillusmykose" of bees.

The Institute received 119 samples of diseased brood, and 112 of them were found to be foul brood. It is stated that bee-keepers suppose that *Bacillus alvei* is the prime cause of foul brood. The investigations of the Institute tend to show that this is not absolutely correct, and that other bacteria play an important part in the development of the disease. In other words, of the 112 samples of foul brood examined, *Bacillus alvei* was found only in thirteen, or in round numbers in one sample out of every nine. This unexpected result gave cause for considerable reflection and experiment. Food containing the bacilli mentioned above was given to healthy colonies, and foul brood failed to break out: nor was any effect produced when bacilli were brought in direct contact with the larvæ and nymphs in the cells.

From this it would appear that *Bacillus alvei* is of less importance than has hitherto been attached to it. Not only so, but in every case of foul brood another microbe has been found, sometimes in company with *Bacillus alvei;* but all attempts to produce the disease with it failed; therefore it cannot be considered as playing any part in its production.

In continuing the investigations a different microbe, a *Spirochæte* belonging to an altogether different family of the higher bacteria, was found. It is spiral in form, is not motile, and appeared in all the samples of foul brood, as well as in the dried masses and scales, even when these were several years old.

According to the report, the researches were to be continued during 1906, and it will be interesting to know if this hitherto unknown organism has anything to do

with the disease causing so much damage to the bee-industry. In any case the results tend to show that *Bacillus alvei* is not the real cause of foul brood, and, when present, plays only a subordinate part.

No. 25 treats of what Germans call "Steinbrut," or mummified brood. In this disease the brood becomes hardened and brittle, and, what is more important, adult bees are also affected. It is due to a microbe called *Aspergillus flavus*, found in abundance in the affected brood and also on the hairs of adult bees. Inoculation experiments on rabbits and fowls not only produced the disease but caused their death; from which it is inferred that this microbe is the true cause of the disease in question. We would, however, point out that too much reliance should not be placed on this, as we know that *Aspergillus flavus* is pathogenic in rabbits, whereas it is saprophytic in man. The disease seems to be epidemic in some districts of Germany.

SHROPSHIRE BEE-KEEPERS' ASSOCIATION.

The annual general meeting of this Association was held at the Mayor's Court, Shrewsbury, on Saturday, March 2, 1907, under the presidency of Beville Stanier, Esq., Peplow Hall, and was well attended. The chairman of the Executive Committee, Mr. Roff-King, made the pleasing announcement that the balance at bank was larger than had been the case for many years, £8 10s. 4d. being in hand, against £2 15s. 8d. last year.

The honey show of the Association, held in connection with the Horticultural Society's great Exhibition in "The Quarry," Shrewsbury, last August, was again a great success, no fewer than 206 entries of sections and extracted honey being staged, and in the opinion of the judges it was one of the best held in the provinces. Up to the present the funds have been insufficient to meet the cost of an expert to visit members, but the committee had made a special appeal to the nobility and gentry of the county for assistance, with the gratifying result that sufficient donations had been received to warrant a start being made, and two certificated experts, Messrs. Peter Scott and W. H. Brown, have been engaged to visit the homes of all members who require advice. The president warmly supported the scheme, which he thought would be the means of inducing more of the rural population to engage in this profitable industry. It is hoped that many new members will join the Association in order to take advantage of the experts' assistance.

The officers and committee for 1907 were then appointed, Beville Stanier, Esq., being re-elected President; the Earl of Bradford, Sir T. C. Meyrick, Bart., W. H. Foster, Esq., H. H. France-Hayhurst, Esq., Miss M. E. Eyton, and Miss A. Downward, Vice-Presidents; Executive Committee: Mr. Roff-King (Chairman), Rev. E. D. Poole, Messrs. A. Beale, W. H. Brown, J. Carver, J. Clay, T. Cooper, J. Devonport, J. M. Griffiths, T. E. Hartshorne, H. W. Hughes, J. Hammond, P. Jones, and P. Scott; Hon. Treasurer, Mr. R. Holland; Hon. Sec., S. Cartwright.

The annual show will be held in "The Quarry," Shrewsbury, in August next, in conjunction with the Shropshire Horticultural Society's show.—S. CARTWRIGHT, Hon. Sec., Shawbury, Shrewsbury.

CUMBERLAND B.K.A.

A committee meeting was held at Carlisle on March 9. Present:—Miss Ella M. Thompson, Miss Bennett, Rev. B. G. R. Hale, Col. Blackett, Messrs. Alfred Sutton, J. Stormonth, J. Veitch, A. F. Helps, J. R. Tiffin, James Lunnin, G. Ismay, E. Muncaster, James Kennan, and the hon. sec. and treasurer, G. W. Avery, Mrs. Avery being also present to take the minutes of the meeting. Letters regretting non-attendance were read from Canon Rawnsley (chairman), Dr. James Arnott, Rev. Wm. Roberts, Rev. D. R. Jones, Messrs. Jos. Nicholson, A. B. Bell, A. J. Hutchinson, F. E. Marshall, H. Maidmint, J. Wakefield, and J. Atkinson. In the absence of the chairman, Mr. John Stormonth presided.

Mr. A. F. Helps was elected on the Executive Council in the place of G. W. Avery, now hon. sec. and treasurer.

A proposal to hold a show of honey, wax, and bee appliances, with open classes, was discussed, but by a bare majority it was finally decided to continue the system of giving small prizes at local shows to members only.

The question of a central honey depot was again before the meeting, and after full discussion the matter was allowed to drop.

A letter was read from the County Council promising a grant of £150 to the C.B.K.A. for 1907, a hearty vote of thanks being passed to the C.C. for their generous support.

At the conclusion of the business the chairman brought forward a proposal which he was sure they would all welcome—viz., to present their late hon. sec. with a suitable parting gift in recognition of his labours on behalf of bee-keepers generally and members of the C.B.K.A. in particular. Letters were read from Rev. Canon Rawnsley, Dr. Arnott, and others in support of this, and the meeting cordially endorsed the pro-

posal. Arrangements were made for the appointment of a committee, who will meet shortly to further consider the details of the proposed testimonial.

A vote of thanks to the chairman brought the meeting to a close.—G. W AVERY, hon. sec. and treasurer.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[6646.] Again we are on the verge of spring, and the bees are gathering from the opening flowers during every hour of sunshine. Owing to the hard winter vegetation is more backward here than for several years past; in fact, our crocus and arabis are quite a month behind time, and bees will therefore, if weather keeps fine, reap an abundant harvest from the earlier flowers. The clover leys are promising, and the sainfoin fields have not been stripped by myriads of wild pigeons as in former years. All my stocks have wintered so well that I have only lost one colony (queenless), and a small nucleus lot at my out-apiary.

Do not allow stocks to run short of stores, and when giving candy place the cake just over the cluster. This applies to stocks made up of driven bees or to colonies not fully supplied in autumn. Stocks well provided, and into which pollen is carried on sunny days, need no attention if water is available near their hives, and they have an extra quilt or a few sheets of paper laid on top of the quilts to cover the brood-nest and conserve the heat of the colony.

Will Bee-keeping Cease to Pay?—"J. C. M." (6638, page 92) gives as a reason that the sale of imported foreign honey has enormously increased of late years; but do the honey imports published in B.B.J. show any increase? No doubt many retailers stock foreign honey, after it has been put up in fancy jars (by wholesale houses), because they get it delivered along with other goods at some 2s. per dozen cheaper than English honey is sold at; and what is more to the point, it is of uniform colour throughout the season. I have had samples shown me (and wholesale prices quoted), and it was equal to most of our own produce. I do not suggest that it was equal to our best show samples; but we must not forget that these extra fine samples do not represent the bulk of English honey any more than the prize animals are fair samples of ordinary stock. For myself, I think we shall ere long have to compete in price with the foreigners, for there is a general improvement in their methods of production and storage and conveyance.

Then our folks are ever ready to boast of the high prices they obtain for their produce. Quite recently *Gleanings*, with a world-wide circulation, was writing up the high prices obtained by English bee-keepers for their honey; and this tends to whet the endeavours of the bee-keepers abroad to scoop in some of the "almighty dollars" by sending their produce to compete with ours. As regards the consumption of honey I feel sure a much larger quantity is disposed of than a few years ago, as the growth of the industry must be steadily progressing. The hive-makers of ten years or more ago are still offering hives for sale, and have no doubt collectively turned out thousands yearly, and our advertising columns record that sections are imported by the million yearly. There is only one class of honey-producers who can complacently view these advances, and they are the heather-honey men who live "ayont the Tweed." May they have a record output at 2s. to 2s. 6d. per pound in the coming summer. — W. WOODLEY. Beedon, Newbury.

THE VALUE OF EARLY SWARMS.

[6647.] During last season there appeared several letters in the JOURNAL by Messrs. W. Woodley and "D. M. M." on the value of swarms in answer to "A. H., Wavendon," showing him that swarms were valuable for the production of honey in the current season. Both gentlemen gave dates and figures to prove their contentions, which in short were as follows:—(page 281) "A prime swarm will fill a hive and from forty to seventy sections"; (page 363) "a swarm sent to 'D. M. M.' in somewhere about 1899 gathered some 200 lb. of honey"; (page 414) "a swarm obtained from Beedon on June 6 ended the season by yielding a surplus take of 109 sections and several sections partly finished"; and again, "a swarm received from Luton on June 27 yielded a surplus of eighty-nine well-filled sections in addition to several well on to being finished." These are splendid results; the pity of it is they are very much the exception and not the rule. "D. M. M." also has said: "There is something else, other than the actual

weight of bees, that goes to make a paying swarm." The object of the writer is to try to show beginners in the craft what that "something else" is; also why swarms on the average do not give anywhere near one-half of these returns. First let us consider what a swarm is in weight and numbers. It is generally admitted that there are about 4,800 bees to the pound, and, taking the average swarm to weigh 5 lb., we may set it down to contain about 24,000 bees. (I note "D. M. M." in *Record* for last October said two swarms combined "would count up to about 80,000 bees"; but I fail to understand how he arrives at his deductions without having nearly 17 lb. of bees, reckoning 4,800 to the pound.) Yet he says such a conglomeration would not be able to utilise space profitably.

Now let us follow a swarm from Beedon or Luton to Scotland. On arriving there we see them hived on drawn-out comb and fed: 24,000 bees, a hive filled with drawn-out comb and a feeder to go at, fully equal to (if not better than) any stock in our friend's apiary that has been wintered there. In addition to this they have perhaps six or eight weeks before them, being urged on all the while to increase their numbers—six weeks and more with no thought of surplus honey-gathering. Breeding is the order of the day. Another great item favourable to their well-doing is, coming from such reliable dealers there is a thousand chances to one the queen is right. By "right" I mean young and prolific; she can be relied upon to give a good account of herself (if unhurt by the journey), not only that season but the following one too, as it is most probable she will only be in her second year. During these six or eight weeks the swarm bees are quietly but surely dying off, and before the honey-flow commences a new generation will have come into existence—thousands on thousands of young, strong, active bees, eagerly waiting for the chance to put forth their whole energy in honey-gathering. At last the flow comes. Weather is just right, and finally, guided by a master-mind, they finish up the season with—Excelsior!

June swarms, even late June swarms, of a good strain of bees, with a young queen, in a heather district, coupled with good weather and intelligent handling, will always be paying swarms. On the other hand, weather is more often unfavourable than favourable in heather districts. So that on the whole good seasons are the exception again, and not the rule.

Let us now follow a swarm in a clover district. It is fairly safe to say more swarms come off in about the middle of June than earlier; and very often the end of June, and sometimes right in the middle of the honey-flow. There we have the swarm hived upon foundation, and some people even go so far as to say it is a saving to hive them on starters. Twenty-four thousand bees on starters! What a vast amount of wear and tear it will cost the swarm to build the brood-nest! It, moreover, will be three weeks before the first young bee hatches. The first batch of young bees will be few, as comb-building took time. During these three weeks the bees constituting the swarm have had to do the whole of the work in the hive, feeding the queen, feeding and capping the brood. There has also been a steady decrease in the number of bees constituting the swarm, with none to take their place for three weeks, and by the time the young bees are hatching out the swarm-bees are aged and the honey-flow passing away. Perhaps by the time the young bees are strong enough in age and numbers the flow will be nearly over and the season gone. Therefore, in clover districts, if an early June swarm fills a rack of sections or a box of shallow-frames, they may be said to have done well; even with that moderate amount in the surplus it is often found they require feeding for winter.

Even our friends Woodley and "D. M. M.," both writing on swarms last spring, gave much more moderate ideas of what may be expected from a swarm than those at the beginning of this letter. So it must not be thought they mean swarms generally do this. Young bee-keepers will be well advised to consider that if their swarms establish themselves and gather sufficient stores to winter on, they should be satisfied, but if their swarms do this, and gather from 12 lb. to 24 lb. of surplus in addition, they have something to be thankful for. This, I think, will be admitted by most bee-men in clover districts to be the average result in an average season.—J. Huxley, Kinnerton, Flintshire, March 9.

(*Correspondence continued on page* 106.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

We are glad to have the views of Mr. Archer—whose bee-garden is illustrated on next page—as a reader who has kept bees in Holland on the old skep plan, and can thus compare it with the modern system. The following notes need no addition from us:—

"I have pleasure in sending, as requested, a few notes of my experience as a bee-keeper. The photo, in which I am seen holding a shallow frame, is of part of my out-apiary; the other person is a worthy bee-keeping friend, Mr. Axtell,

who lends a willing hand when help is wanted. Five years ago I bought my first stock in a skep, and transferred them to a frame-hive the following season. Since then I have slowly increased until my apiary now contains thirteen stocks, including skeps. The hives are located close on the main road at Yarnton, four miles from home, and all manipulations have to take place before 7.30 a.m. or after 8 p.m., except Thursdays, when I am sometimes at work amongst the bees by 5.30 p.m. But, although pressed for time, the bees are always a source of great pleasure, and yield a satisfactory profit. My best 'take' was 96 lb. of super-honey from one colony—a good result considering the short duration of the honey-flow in this district. I have had a good 'innings' with every form of work connected with bees, including queen-rearing and mating with baby nuclei. The latter method I found very successful and most interesting in every way; but the little boxes needed more regular attention than I could give to keep them going; besides, I had no use for the many splendid spare queens I produced. I think a teetotaler has a better chance of successfully grafting larvæ into queen-cups than the bee-keeper who 'likes his glass,' for it needs a steady hand and keen sight. I have been engaged on some pleasant bee-driving expeditions. Among them one lives prominently in my mind, connected with the removal of a colony of 'all blacks' from an old house. It needs to be fearless of stings when occupied on a job of this kind. Over fifty stings within an hour are what two of us got; but we had some consolation in securing honey and bees too. Last summer a farmer coolly requested me to take a swarm for him. I should have done this willingly, but had to pause when he pointed out where they were to be taken from. He pointed me to his drawing-room. The bees had gone through the open window and up the chimney!

"It seems impossible to produce that almost colourless extracted honey we see staged at the large exhibitions from our district; but I have secured many first prizes at local shows. With regard to marketing my surplus honey at a remunerative price, I have not the slightest trouble, and could easily sell many times as much as I can produce, although there is here the usual over-supply during August as in other towns. I do not hesitate to say that a fair income can be made from bee-keeping by an industrious, intelligent man who thoroughly understands the bees and is handy with tools. I strongly condemn some manufacturers of appliances for sending out hives made from thin wood, which actually come to pieces in the shop windows before being tested by the weather outside.

"Like most amateurs, I have tried various kinds and sizes of hives, and would now like to get rid of the lot, and

MR. WM. G. R. ARCHER'S APIARY, KINGSTON ROAD, OXFORD.

adopt one good pattern, so as to have all parts interchangeable. The same applies to strains of bees. I hardly know which strain I prefer yet. Last year I sent a good outfit to some young Dutchmen who had caught the bee-fever when visiting me. Holland must be a rare country for skeps; they still use the old dome-shaped ones, with two entrance-holes 6 in. from top and bottom respectively. I have one in my garden now which I imported two years ago, and these bees ('all blacks') are as quiet as flies. I remember the 'bee boer' bringing eighty stocks in skeps to Het Hank, by Dussen, where I resided several years. These eighty increased to 180 stocks before the time came for removal back to the heather district.

"My three-year-old son is always ready to assist me with the few hives at home, and has no fear of stings; but if he will inspect hives he must expect the 'tail end' of a bee occasionally. However, he will—like myself—doubtless become 'inoculated' in the course of time. I noticed to-day (March 8) bees carrying golden pollen from crocus; this comes as a warning to make sure that stores are still plentiful, and to get all ready for the coming season, which I hope may be a record. Of course, I don't miss the benefits of reading the B.B.J. weekly."

(*Correspondence continued from page* 104)

"COBWEBS AND QUESTIONS."

[6648.] After reading "D. M. M.'s" article in your last issue (6637, page 91) I feel as though knocked into the proverbial "cocked hat" on the subject of "quilts," &c., and when looking round the garden to-day at the hives I was in doubt whether I had any brains left to mix with the "quilts," or whether I had to mix any possible remainder with my usual habits and tastes. At last, however, I gave it up as a bad job, and am now wondering whether I am to fetch out of the lumber-room the old discarded single-walled hives of all shapes and sizes for use again, for if (as "D. M. M." states) one is as good as another, why go in for "W. B. C." hives at a guinea or more apiece? I had some time ago come to the conclusion that a thin single-walled hive was rather too warm a domicile for bees when a hot summer's sun was shining on it; but it now appears I have to unlearn again. I also fancied that a cover of American cloth next to the quilt was far and away the best for summer use, and a more porous one preferable for winter. Now, however, it appears that it is a mere matter of fancy, as both are best. Were I at the beginning of the neophytic stage, instead of being perhaps just past it, I might be led, after reading our friend "D. M. M.'s" remarks, to place surplus-chambers below the body-box (which would be sometimes much readier than placing them above); but I am inclined to stick to above and the side, as the case may be. Perhaps I should get the "cobwebs" out of my head if it had been my good fortune to enjoy a season or two in Scotland, working for heather honey only, as I believe "D. M. M." does. It is possible I might discard the use of excluders below sections, because in the older days my idea was that bees, when gathering heather honey, had no time to bother with rearing more than a few youngsters; but as my bees are located where they have a good fling at the earlier flowers, I have vague remembrances of some seasons when excluders were not used the queen has got into the sections and spoilt a good number of them, and in order to remedy this evil I have been led at one time or another to invest something like four pounds sterling on excluder zinc. Thus I feel myself saying, What a pity to have wasted my means so lavishly if excluders are of no use after all? Perhaps after a night's sleep my head may be clearer of cobwebs, and, like many another "seeker after truth," I may see clearer in the morning; as it is, I am fairly mixed up. I send name for reference.—NONDESCRIPT, Notts, March 12.

BEES IN SOUTH AFRICA.

[6649.] On August 15, 1906, I obtained an American bee-hive, and as I had a few days previously hived a small lot of bees (dug out of a sand-bank in the veldt) in a box, I transferred them on the above date to the movable-frame hive. This swarm was peculiar, as it consisted of two distinct varieties of bees, both of the small kind, one perfectly black, the other yellow-banded on body.

On October 20 I bought another swarm, also rather small, for 2s. 6d., obtained out of the veldt, and united the two. The bees agreed capitally, killing only the new queen.

On January 21 last I removed twelve supers of honey, perfectly capped, and on February 18 I intend removing all surplus honey ready for taking.

I may mention that surplus honey is ready for removal about once a month during summer if weather keeps fine.

Not having another frame-hive by me I placed in a box, about three yards distant from the old hive, another lot of bees which was given to me, and then a strange thing happened. After settling in the box, as I thought comfortably, they gradually commenced to "trek" into the old hive. I saw them do so, till only about a dozen were left with the queen, which eventually died.

I send you a couple of specimens (pre-

served in formic acid) of a sort of "bee-wasp," which does an immense amount of mischief to our honey-bees here. You will notice it is about the same size as the ordinary bee, but the wasp carries the latter off with the greatest ease. I am informed that when in large numbers they kill off whole colonies of bees. 1. What is the name of the wasps preserved in glass phial sent? 2. Can you give me an explanation of why the bees of my first swarm were of mixed colour? I enclose a rough sketch of my hive, very badly done, I admit. I always see your weekly paper, the B.B.J., out here.—P. A. HOOLE, M.B., New Bethesda, S. Africa, February 14.

[1. The specimen wasps sent are the *Philanthe apivore*, and well known as among the most fierce and destructive of bee enemies. Though no larger than the bee, they seize and carry the latter off by hundreds to kill and devour the fleshy parts of after the fashion of vultures. 2. We should require to see specimens of the bees before venturing an opinion regarding markings and colour.—EDS.]

BRITISH V. FOREIGN HONEY.

[6650.] I beg to endorse the views expressed by "J. C. M." (6638, page 92). In marketing my produce of last year, I found that grocers, &c., were selling foreign honey to the public as "British." I have no doubt much is of fairly good quality, but some I have seen and tasted is no more like the genuine article than glucose or crude saccharine, and no doubt the poor stuff has choked off a number of buyers, to whom all honey is simply "honey," and who are prejudiced at once against honey of any kind, whether adulterated or not.

It is very regrettable (not to use a harsher word) that these mis-statements should be openly made by these unscrupulous and not very patriotic people, but it is apparently not easy to find a remedy. It is a great pity that the eyes of the public could not be opened to what good honey really is. If a few of our more able literary friends in the craft could be induced to write a few articles and get them inserted in the daily Press it might do some good. The honey market certainly seems to be getting very restricted.—G. F. WEST, Gosport, March 8.

PRESERVATIVES FOR HIVE-WOOD.

[6651.] In reply to your correspondent J. Long (6643, page 94), by "seasoned linseed oil" is meant oil that has been "tanked" for a considerable time. I know by experience that fresh linseed oil works greasy and does not cover well. Then, again, with white lead. There is best genuine old white lead at about 24s. per cwt., and varying qualities from No. 1 at 21s. per cwt. to No. 6 at 10s. 6d. per cwt. The last lot I had from a local ironmonger would not make white paint so I returned it. My experience in buying is that ironmongers do not stock "best genuine" quality. I therefore advise getting it from a first-class house decorator, and insist on best genuine white lead and linseed oil, but no turps. If 1 cwt. lots can be taken, try Farmiloes, St. John's Street, West Smithfield, or Pilchers, Morgan's Lane, Tooley Street, London.—A. H., Wavendon, Bucks.

Queries and Replies.

[3181.] *A Beginner's Queries on Bee-Management.*—I bought a swarm of bees last June, and had no surplus honey from them. I fancy that the queen (which must be over two years old) should be deposed and another substituted, and in view of this I would ask:—1. What is the best method of doing this without going through another year minus any honey? Hitherto my bees have been kept for their own amusement and profit entirely, and I want my turn this year. 2. I surmise that a stock can only be re-queened after putting on supers with great difficulty, and that I must not attempt to re-queen until there are drones on the wing. Is this so? I am making a small nucleus hive to take three frames, so that it will be available when your reply appears in print. In carrying out my plan, I propose putting about a quart of young bees in the nucleus, with one frame of eggs and two of honey, hoping that the bees will raise a young queen. 3. If this is correct, how am I to tell when the queen is fertilised and not laying drone eggs? My next proposal is to introduce the new queen to my original hive by running her in at dusk in a hungry condition, as per "Guide Book" directions. 4. If this is done, the old queen must have been previously removed; but, should the bees then destroy the new one, shall I not then be left in the position of having to wait till another is reared, which waiting probably means no honey at all once more? 5. I have made another hive, and propose buying a skep of bees and putting this on top of the brood-chamber of the new hive, and, when the queen has passed down and the brood in the skep is hatched, removing the skep and supering. Is this the best method of transferring? I enclose name for reference, and your kind reply will greatly oblige—R., Wallington, March 11.

REPLY.—1. We cannot improve on the methods of re-queening given in the

"Guide Book," pp. 127 to 133. The main point for you to consider is how to procure a good prolific queen to take the place of the old one, and to introduce her early in the season in order to secure the full benefit of her fecundity in building up the colony to full strength in time to take advantage of the main honey-flow. 2. The stock should be re-queened some time before supers are required. There is obviously no need for drones to be "on the wing" when the stock is re-queened, the queen introduced being already fertilised. 3. The test of a young queen being safely mated is the brood reared from her eggs. If unmated, drone-brood will appear in the cells intended for workers. 4. You must read carefully the instructions on page 129 of "Guide Book." On no account must you fail to render the bees queenless and let them feel their loss before introducing an alien queen to them, or the latter will be killed. 5. On page 140 of the same book the plan you propose to follow is stated to be the "safest and most simple plan." Need we say more?

[3482.] "*Wells*" *Hives for Swarms.*—Will you be good enough to tell me if it would be practicable to use a "Wells" hive for two swarms, supposing the swarms came from two different stocks at different times?—W. H. Baverstock, Woking, March 9.

Reply.—Yes. The two compartments of the "Wells" hive are supposed to contain two stocks of bees; and by using the perforated divider the bees of both lots are more or less of the same odour. Consequently, when a large super is given, the bees (but not the queens) of both lots fraternise, and work as a single colony.

[3483.] *Re-queening Stocks.*—I should be obliged if you would kindly advise me, through the B.B.J., as to the following:—I have six stocks of bees in modern hives on standard frames, three of which stocks were built up from driven bees in autumn, 1905, the others being made up also from driven bees in autumn, 1906. I wish to re-queen two of the 1905 lots in the coming season. Will you therefore tell me the simplest manner possible to do so, as I am away from home all day, and do not want to buy young queens; but I want the bees to be re-queened; so, without my losing the benefit of the honey-harvest, under these circumstances when is the best time for re-queening to be done? Thanking you in anticipation, I send name, &c., and sign —Q. X., Beccles, March 9.

Reply.—The simplest and cheapest plan is to re-queen in autumn, or as soon as convenient after all surplus honey has been removed. At that time young queens from driven bees may be had for about 2s. each (or two for 3s. 6d.), and will yield a good patch of brood before settling down for winter. You will find it true economy to follow this plan.

[3484.] *Stains for Microscopic Work.*—As I am anxious to discriminate between the *Bacillus alvei* and other organisms in my examinations for suspected foul brood, I shall be much obliged if you will kindly furnish me with the staining characteristics and other morphological paints which will place me in the position of distinguishing the above bacillus.—C. Wray-Palliser, London, S.W.

Reply.—The best stain is methyl violet, and the bacilli accept Gram's stain, but the spores are not affected by it. As regards morphological characteristics, the organism is a slender bacillus in form, with slightly pointed and rounded ends. Cheshire and Cheyne state that in larval juices it is about $\frac{1}{7000}$ inch in length and $\frac{1}{20500}$ in breadth. On agar the bacilli vary considerably in size, averaging $\frac{1}{7200}$ inch, some as small as $\frac{1}{10000}$ inch, and others as large as $\frac{1}{5000}$ inch. When they have attained the latter size, division of the rod seems to begin. They are always somewhat pointed at the ends. Their average breadth is $\frac{1}{30000}$ inch, ranging from $\frac{1}{35000}$ to $\frac{1}{25000}$ inch. The bacilli are actively motile, and possess a single flagellum at one pole. Cultivation on various media (for which refer to text-books on the subject) is necessary to determine the species with certainty.

PRESS CUTTING.

BEES AND BLUE FLOWERS.

Mr. Bulman is a bold and, we fear, a bad man. He sets out in the *Nineteenth Century* to show that we are all wrong in thinking that it is the bees who have given us our blue flowers. Darwin started the enchanting theory that we owed all our more beautiful flowers to insects, and Mr. Grant Allen developed a romantic history for the flowers that are most desired of all. According to his story bees have always had a passion for blue, and finding a blue tinge in certain yellow flowers they spent all their time and attention on those flowers, and were rewarded by finding them grow bluer and bluer. A theory so picturesque and so agreeable to all our special sympathies with bees was bound to capture the human mind, and when Lord Avebury contrived to prove that bees liked blue much better than other colours by inviting them to taste honey placed on slips of glass over papers of different colours, the success of the theory seemed certain, and everybody was delighted. Mr. Bulman now asks us to believe that this is all a delightful legend. He will not even admit that blue is the favourite

colour of bees. He produces poet after poet, from Virgil to Keats, to show that bees are fond of sycamores, willows, cowslips, lilies, hawthorn, and clover. It is a formidable list, but even poets make mistakes in their natural history. If we remember rightly, Samuel Rogers, wishing, like most Londoners, to write on fields and forests, took the precaution of sending his poem to a country friend, who returned it with the remark that the sad cry of the watercress-seller was not characteristic of the country lane. Mr. Bulman also seeks to show that Lord Avebury's experiments prove nothing, because he began by accustoming the bees to the blue papers. He says nobody else has produced the same results. But, after all, is it not rather gratuitous to assume that bees, who had their civilisation and built their cities and made their laws when our ancestors were wanderers and barbarians, lend themselves to experiments to satisfy our upstart curiosity? We are the more confirmed in our theory because when Lord Avebury played the violin, so to speak, in their ears they refused to show the least sign of pleasure or any other emotion. That composure and gravity was a splendid rebuke to our impertinence.

Mr. Bulman's audacity is the more striking because the world, which has always been interested in bees, is at this moment particularly interested in blue flowers. Blue, as Pater lamented, is the rarest of bright colours in our gardens, and it is the most esteemed. It is possible, indeed, for the resourceful gardener to have blue flowers in the garden during nine or ten months of the year, but only a few weeks ago we drew attention to the persistent attempts that are being made to develop new blue types. There are men dreaming of blue carnations, as their fathers dreamt of the North-West Passage. It would be distressing to think that the bees can really do nothing to help us in these efforts. But the modern gardener will have nothing to do with so ungracious a theory. He is an enthusiast for birds and insects. He likes to think only of their virtues. He likes to think that the bullfinch attacking the cherry blossom chooses only the blossom which is covered with hostile insects; and as for the hostile insects, "whose intent, although they did ill, was innocent," he may sometimes be seen, like the Lady in Shelley's "Sensitive Plant," removing them, if not "into the rough woods far aloof," at any rate into a neighbour's garden. With gardeners in this humane and sympathetic temper, Mr. Bulman's disagreeable heresies will find little countenance. A generation that pities the unlovely slug is very jealous of the glories of the bee. Mr. Bulman, though he quotes the poets, is, we understand, a man of science. But if science has given the world this splendid dream, we shall refuse to let anything but poetry take it away.—*The Tribune.*

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

R. Shields (London, S.E.).—*Home-made Hives.*—The "Practical Notebook" (price 1s. 1d., post free) contains full details and working plans for building home-made hives from ordinary timber and from used boxes. There are also plans for building a bee-house and other useful information in the book.

A. G. S. (Horsforth, Leeds).—*Wiring Frames.*—The sample of wire sent is far too strong for the purpose. Use "No. 30" tinned wire, sold on reels by any ironmonger.

Novice (Thornton).—*Insurance for Bee-keepers.*—1. The full particulars you want with regard to insurance appeared on page 61 of B.B.J. for February 14. 2. If you carry out the plan of transferring recommended in "Guide Book" it will work out all right. The first week in May is a good time to set the bees in odd-sized frame-hive above the standard frame-hive for transferring themselves below.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

PURE ENGLISH HONEY, taken first prize, 2 cwt., run; also ½ cwt. Beeswax. What offers?—MRS. SMITH, Wadburns, Buntingford, Herts. w 98

WANTED, Good Supering Hive, complete. Strong stock with healthy brood. Exchange Indian Runners.—SUTTON, Maes Geiniog, Holyhead. w 92

WANTED, Certificated Experts. Particulars, with testimonials.—G. W. AVERY, Hon. Sec. C.B.K.A., Armathwaite, R.S.O., Carlisle. w 2

EXCHANGE, Double Breechloader Gun, 12 bore, top lever, Government proof barrels, left choke, rebounding locks, cost £5, for Bees, Wax Extractor, and other Appliances.—RALPH, High Hill-grove, Settle. w 82

Special Prepaid Advertisements.—*Continued.*

WANTED, few dozen new, clean, Standard Frames, Abbott's pattern, cheap.—WALLACE, 26, Pall Mall, Manchester. w 80

BULL-TERRIER, smart, pedigree bitch, quiet, 17s. 6d. Exchange Bee appliances.—WOOD, 24, Foxcombe-road, Bath. w 78

GREENHOUSE HEATING APPARATUS for sale, 35s., or exchange Bees.—F. CRICK, Firwood Cottage, Halstead, Essex. w 77

3 STRONG STOCKS of healthy Bees for sale, in nearly new "W.B.C." Hives, cheap.—HOLMAN, 25, Hazelbank-road, Hither Green, S.E. w 94

HONEY, best quality, 12s. per 28 lb. tins.—TWIGGE, Bencroft Grange, Rushden. w 95

SINGLE FRAME EXTRACTOR and a Section Extractor, both hardly used. Exchange for Swarm Catchers.—RICHARDS, Barnville, Kingsbridge, Devon. w 96

FOR SALE, 1 cwt. fine Extracted Honey, or exchange appliances; also two new Double-walled Hives, cheap.—J. DAY, Offley Grange, Hitchin. x 1

CASE of 2 in. A. I. Root's No. 1 4-way Sections (1,000) for sale, to clear, 15s. — A. F., 338, Franklin-road, King's Norton. w 97

"WELLS" HIVE, 10s.; sundry Hives, 5s.; "W.B.C." racks, feeders, travelling crates, tins, &c., very strong Stocks, 25s.—MELLO, c/o "Bee Journal" Office. w 90

FOR SALE, seven Stocks of Bees, in almost new Standard Frame Hives, guaranteed healthy.—MOORCROFT, Long Marton, Carlisle. w 89

FIVE STOCKS of BEES, in good Bar-frame Hives; standing at Woodgreen, Breamore, near Salisbury. Price 4 guineas; buyer to remove.—Apply to BROOKS, Woolley Grange, Bradford-on-Avon, Wilts. w 88

LIGHT GRANULATED HONEY, 1-lb. screw-cap jars, 8s. 6d. dozen; bulk, 56s. cwt.—CHARTER, Tattingstone, Ipswich. w 86

SELL, 1 strong, healthy Stock Bees, in good Standard Frame Hive, 27s. 6d.—CHANTLER, Eastwell, Kent. w 85

OWING to REMOVAL.—2 Stocks of Bees for Sale.—MISS ASQUITH, Waterloo House, Garforth, Leeds. w 84

WHAT OFFERS, 4 cwt. Honey, to clear? Sample, 3d.—J. NIGHTINGALE, Doddington, Cambs. w 83

FOR SALE, Light-coloured Honey, in 14 lb. tins, 56s. cwt.; 1 cwt. second quality, 50s. cwt.—ARTHUR ADCOCK, Meldreth, Cambs. w 81

HONEY to CLEAR, 1 cwt. of Finest Quality, 10s. per 28-lb. tin.—OWEN BROWNING, Ashley, Kingsomborne, Hants. w 91

WANTED, few Standard Shallow Frames, Worker Combs.—Write, GORDON-REID, Barringtonsbridge, Co. Limerick. w 93

WANTED, Pure English Beeswax, any quantity, for cash.—W. CHILTON, Polegate, Sussex. w 99

5 GOOD STOCKS OF BEES, in Bar Frame Hives, and all appliances; must sell, owner no time to attend to them.—THOS. ROBERTS, c/o G. Gunnery and Co., Tarvin, Chester. w 79

TWO 28-lb. tins of Good Extracted Honey for Sale, 30s., cash or deposit; would exchange for Geared Extractor, must be in good condition.—COOPER, 74, North-street, Halstead, Essex.

Special Prepaid Advertisements.—*Continued.*

FINEST HEATHER or CLOVER, jars or bulk.—STOCKS, 44, Bentley-road, Doncaster. w 87

LIGHT-COLOURED HONEY, in bulk, 54s. per cwt.; 1 lb. screw jars, 8s. per doz.; sample, 2d.; in quantities to suit purchasers.—Apply, HON. SEC., Lincs B.K.A., Tothill, Alford w 72

WELL-MADE double-walled hives, with strong, healthy Italian hybrid bees, for sale.—Write 13, The Circus, Greenwich. v 93

EXPERT WANTED, for Spring and Autumn Tours.—Apply, R. H. COLTMAN, Sec. Derbyshire B.K.A., 49, Station-street, Burton-on-Trent.

LAYING COMPETITION.—2 guinea prize to the first pullet laying from eggs supplied by me from Gold and Silver, Silver-pencilled, and Partridge Wyandottes. Sittings, 5s. and 10s.; Utility Wyandottes and Buff Orpingtons, 3s. sitting.—AVERY, Armathwaite, R.S.O., Carlisle. w 74

STOCK on eight Frames, also empty "Wells" Hive, complete, £2 lot.—PICKERSGILL, Bishop Monkton, Leeds. w 59

LARGE CANVAS BELL TENT, with pole, ropes, &c., complete, 25s.; Sections, 8s. 6d. per doz.; Stocks, in Skeps, 12s. 6d., 13s. 6d.; ditto, in Standard Frame Hives, 25s.—W. WOODS, Normandy, Guildford. w 61

HONEY for sale, in 30 lb. tins; sample, 3d.—MISS BOURNE, Atherstone. w 62

LIGHT GRANULATED HONEY, in 1 lb. screw caps, at 7s. 6d. doz., to clear.—W. CANHAM, Fordham-road, Soham, Cambs. w 63

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw cap jars, 7s. doz., 77s. gross; ½ lb. ditto, 4s. 6d. doz., 45s. gross; 14 oz. ditto, 6s. 6d. doz., 72s. gross; Honey in bulk, 48s. cwt.; pure breed sitting eggs, 4s., guaranteed.—TURNER BROS., Sandpit Poultry Farm, Croydon. w 65

GOOD PAINTS, ready mixed, all colours, for Hives, Greenhouses, and general purposes, 3d. lb., in 7 lb., 14 lb., and 28 lb. lever-lid tins. Orders 50s. and upwards carriage paid.—W. O. JONES, Caerleon, Mon. w 66

SKEPS OF BEES, sound, heavy, healthy, guaranteed, 10s. 6d. each. — POSTMASTER, Haconby, Bourne. w 64

230-EGG Strain Anconas; 250-Egg Strain White Leghorns; early chickens pay best. Send for list. Sittings, 4s.—SWAFFIELD, Kingstone, Hereford. w 54

CHAPMAN HONEY PLANT SEEDS, 6d. and 1s. packets, post free.—E. H. TAYLOR, Welwyn, Herts.

SIX nearly new "W.B.C." Hives, with Bees, strong.—M. LAMBOLL, Sydenhurst, Chiddingfold, Surrey. w 20

"NEVER SWARM" SYSTEM, twelve years' absolute success and double surplus, free, 3½d.; Spring Feeders, "The Best," refilled without removal, 1s. 6d.; 12, 16s., free.—HARRIS, Wavendon, Bletchley, Bucks. w 30

ENGLISH HONEY, 28 lb. tins, 6d. per lb.; sample, 2d. Cash or Deposit System.—STEVENS, Latimer Apiary, Chesham, Bucks. w 27

CARBOLINEUM, the best preservative for Bee-Hives, Poultry-Houses, &c., 1s. 3d. per quart, 3s. 9d. per gallon; tins free, carriage paid; paints, &c., of best quality.—GURTH COOPER, 15, Cheapside, Derby. v 65

HIVES, 7s. 6d., satisfaction guaranteed, for ten Standard frames, made by machinery, 9in. lift, roof, and porch, painted two coats 2s. 6d. extra, cash with order.—COX, Smallbrook-street, Birmingham. v 88

Editorial, Notices, &c.

THE "ROYAL" SHOW AT LINCOLN.

Referring to the advertisement on page iii, and in accordance with our usual custom at this season, we invite the attention of readers to the "Royal" show for the current year. Full particulars are given of the various classes and the prizes offered at Lincoln in June next, and there is every reason for hoping that the show will be one of the most successful exhibitions held by the Royal Agricultural Society of England for many years past. The Bee-section promises very well indeed, if bee-keepers will do their part by reserving some of the plentiful stores of good honey we have heard so much of as being "still on hand, unsold." The "Royal" offers a fine chance of effecting sales before the current season's honey is on the market.

KENT BEE-KEEPERS' ASSOCIATION.

The bee-map of Kent, which is the joint production of Mr. Arthur Schofield and Mr. E. D. Till, is being published, and we shall soon be able to announce something more about this singularly unique and useful chart, which shows at a glance the extent and distribution of the bee-industry in Kent. Mr. Schofield has also secured the names and addresses of nearly three thousand bee-keepers in the county. We should like to see a similar chart and census produced for every county in Great Britain, but it is almost too much to expect that every county has a Schofield! Still, we must hope it will be done some day. The present intention is to call a Bee Conference in the large Drill Hall at Eynsford on Saturday, April 6, but more hereon next week.

In the meantime it is to be hoped that the bee-keepers of Kent, who are fully alive to the need for reviving the county association, will give practical evidence of their interest in Mr. Till's praiseworthy efforts by attending the meeting on April 6.

REVIEW.

Potatoes. By the Hon. H. A. Stanhope. London: Agricultural and Horticultural Association. Price 1d.

One of the series of "One and All" garden handbooks, edited by Edward Owen Greening, F.R.H.S. The author gives very interesting details of the history of the popular tuber; the best modes of cultivation; the treatment for diseases; the varieties suitable for different kinds of land, &c. The editor has added notes on manuring. The booklet is very fully illustrated throughout, and is written in a popular style free from technical difficulties.

LANCASHIRE B.K.A.

ANNUAL MEETING.

The annual general meeting of the above association was held at the Scientific Society's Rooms, Preston, on Saturday, March 9.

W. T. Hawkshead Talbot, Esq., of Hartwood Hall, Chorley, presided over a good attendance, which included most of the officers of the association and several ladies.

The revenue account showed a balance of £8 12s. 4d. in hand on the year's working. The accounts were passed.

The annual report showed that the membership now stands at 353, against 332 at the beginning of 1906, sixty-five new members having joined and forty-four resigned from various causes. The expert (Mr. J. Gray) visited about 400 bee-keepers in the county, and examined 1,515 stocks, of which fifty-five were in skeps.

The County Council granted £15 to the association in aid of lectures, and ten lectures and demonstrations were given under that grant in different parts of the county. Many other lectures and demonstrations, also Nature studies to the elder scholars of different schools, were given by the association's lecturers. In addition to the county show at Lancaster, honey shows under the association's auspices were held at Chorley, Cartmel, and Hayton.

The Right Hon. Lord Balcarres was re-elected president.

The retiring committee was re-elected, with the additional name of Mr. Fletcher, of Chorley. Mr. Wood, hon. auditor, Mr. Taylor, hon. treasurer and librarian, and Mr. Bold, hon. secretary, were all re-elected.

A discussion took place on the new insurance scheme, and arrangements were made to inform members of the conditions of insurance as issued by the B.B.K.A.

The meeting concluded with a vote of thanks to the chairman.

After an adjournment for tea, a conversazione was held in the hall, many interesting appliances, books, &c., being on view, including a number of microscopic slides shown by microscopes, lent and manipulated by Mr. Heathcote, the secretary of the Scientific Society, and a friend.

After a keen competition for the Baroness Burdett-Coutts prize hive, the hive was won by Mr. Whiteside, of Hesketh Bank. Supplementary prizes, consisting of books, were also awarded.

In the evening a most interesting lecture, entitled "Ants and their Ways," illustrated by beautiful lantern-slides, was delivered in the hall by H. Berkeley Score, Esq., F.R.G.S. Mr. Talbot again presided, and there was a good audience.

Thanks were given to the lecturer, to the chairman, and to Mr. Heathcote for manipulating the lantern, and thus the meeting was closed, terminating what proved to be one of the most successful annual gatherings the association has ever held.—Jas. N. Bold, hon. sec., Almonds Green, West Derby.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

AMONG THE BEES.

CURRENT TOPICS.

[6652.] *Weather.*—March this year came in like the proverbial lamb. For about ten days, during the close of February onward, the temperature was high and the weather abnormally fine. This was followed by a sharp snowstorm on the 8th, now happily gone. It is this inconstant and variable weather which causes spring losses. Bees at one time are expanded, covering all the frames, and in a day or two after close clustered on barely half of them. The habit of daily flight, once roused, is difficult to allay, and so bees venture out on inclement days, when the climatic vicissitudes of our weather in samples prove too strong for their as yet weakened constitutions, bringing about the deaths of many of them. Breeding seems to have begun early in most hives, judging by outside observation; but much of this in early spring is rather to the detriment than to the betterment of stocks not very rich in bees and stores.

Will Bee-keeping Cease to Pay?—The subject appears to me to be a Chinese puzzle, impossible to solve, and of little value (if the paradox is permissible) when solved. Will an earthquake devastate our quiet glen? Which of our islands will first melt with fervent heat? Will the millennium come in our day? These and a thousand other hypothetical problems might engage our attention with as much profit to us, and we can very well afford to let posterity meet and combat these ghosts of the future, or rather of the imagination wholly. My own opinion, or, better still, my conviction, or, best of the three, my experience, is most emphatic that bee-keeping not only pays, but that it is the best paying of all branches of the *petite culture*.

The B.B.K.A. Library.—As a member of the B.B.K.A. who has profited by the use of this excellent institution as much perhaps as any, I hail with pleasure the growing interest manifested in its affairs of late. I have previously drawn attention to the subject, describing it as a "derelict library," and pleading that some wealthy apiarist would donate something to print a "catalogue." This last is sorely needed, if it is to be a library in anything but name, and this point should engage the early attention of the Association or of the Council. Should an appeal be made for funds for this purpose, I feel certain it would be heartily responded to. Attention being drawn to the subject should do good in another way. Many readers may have bee-books in their possession which they might be willing to present to the Committee. In this way, if an earnest effort were made, the number of the books might be very considerably increased. Our late noble President, the Chairman of the Council, and many others have been exceedingly liberal in this way in the past, and many more might now imitate their good example.

Is the Rev. Sidney Smith's suggestion feasible? If so, it might advertise the library and the Association, and so help to swell the list of members. I may inform Mr. Samways that some of the books (say Hill's) are very valuable—I might say invaluable, as it might be almost impossible to replace them, and if heavy calls were made on the librarian it might be necessary to place restrictions on a few of these. I think I noted Quaritch's price of £4 4s. on one.

B.B.K.A. Annual Report.—The curtailment of the good work which might be overtaken if the sinews of war were more liberally provided is the point of most importance in my view. Many things could be done for the benefit of the craft if the means were within the Council's power. An urgent appeal should be made for funds, and the Association should keep the good they are doing more prominently before bee-keepers, the generality of whom in many parts of the country are entirely ignorant of even the existence of such a body.

The loss of the late liberal and generous-hearted President will be much felt, for no one during the one-third of a century she held the high office was more unceasing in a desire to spread abroad a knowledge of the art. Believing as she did that it was one of the most profitable of our minor industries, her generosity in upholding it was such that it deserves the most grateful acknowledgment.

One hundred and twenty-nine candidates sat for certificates, and of these

eighty-seven were successful in adding the proud appellation of "Expert" to their names. It is interesting to note that again ladies formed the majority of those who obtained passes in the first and second class.

The chief expert (Mr. W. Herrod) certifies the Association's apiary free from foul brood. He had one case of black brood, which yielded to treatment, however. Bottom starters were no good, and common dividers were at least equal to any. It strikes me that if directions were given by the Council to Mr. Herrod he should make very copious notes in course of the year, and publish them in the JOURNAL. His almost unique experience would make this information very valuable.

"*Cobwebs.*"—I hope, "Mr. Nondescript," after a good sleep, you now see more clearly since writing 6648 (page 106). Why, sir, you and I—as it is—see eye to eye. I, too, have (1) discarded single-wall hives; (2) don't like odd hives of all shapes and sizes; (3) believe in "W. B. C." hives; (4) have no good to say about a "thin single wall"; (5) believe in American cloth quilts in summer, (6) and hold a more porous one preferable for winter; (7) stick to supering above; (8) believe in excluders where found necessary. Why, there, your cobwebs are all gone!

Free Insurance.—Are bee-keepers aware that in possessing a copy of the BRITISH BEE JOURNAL, when travelling by rail or any vehicle, they hold a guarantee for £100 in case of death? (See advt. page ii.) All that is necessary is that the holder's name and address should be entered on the two vacant lines. Travellers should take full advantage of this important offer.

Wanted.—Any bee-keepers possessing copies of the works of the following Scotch writers: (1) Dunbar, (2) Maxwell, (3) Howatson, would favour me by offering to dispose of the same at a reasonable price. Secretaries of county bee-keepers' associations would oblige by sending me copies of their annual reports, with the object of writing up such societies at some future time.—D. M. M., Banff.

A NEW USE FOR BEES.

[6653.] Two years ago we suffered in this neighbourhood from spring frosts, just at the time the plum-trees were in bloom. The consequence was an almost complete failure of the stone-fruit crop, and out of a considerable number of trees only one greengage-tree in my garden bore a fair quantity of fruit. It was a small tree, and under it stood a bee-hive. Thinking that perhaps the fertilisation of the flowers by the bees in such close proximity might have produced so favourable a result, I placed other bee-hives under plum-trees during the ensuing winter. Last spring there was again a late frost, which destroyed nearly the whole of the plum-blossom after fertilisation, and the bulk of the crop was lost. There was, however, one remarkable exception. A bee-hive stood under a Black Diamond plum-tree, and about 3 ft. above it was a branch that bore a heavy crop of plums, while the rest of the tree was barren. As the whole tree had been full of flowers, and these had been fertilised before the frost, there was clearly some favourable influence due to the hive, and the observation of the previous spring was fully confirmed. On comparing the temperature on the branch above the bee-hive with the surrounding atmosphere I could not detect a greater difference than 2 deg. Fahrenheit; but on cold nights there was nearly always an ascending current of air over the hive, and this may have had a favourable influence on a frosty night. Perhaps some of your readers may be able to make observations on this subject during the next month or two, and if my isolated cases should be repeated them it would be fair to assume that bees may, under certain circumstances, be some protection to bush-fruit and low fruit-trees. No doubt several hives grouped under a tree would be more efficacious than a single one. The warmth of a colony of bees has been utilised for hatching eggs, and the top of a frame-hive with a glass roof is an excellent place for striking cuttings of plants; but if the waste heat can be utilised in the manner I have indicated one more argument will be available in favour of keeping bees in gardens. It is to be hoped that further experiments may be made in this direction by those in a position to do so.—WALTER F. REID, Addlestone, Surrey, March 16.

"NEW LIGHT ON BROOD DISEASES."

[6654.] It has long been haunting my mind that there was more in the black "shiny" bees that have been sent to the B.B.J. office by numerous querists than was to be accounted for by your usual verdict of "confirmed robbers," &c. If my communication on page 416 (last volume) is referred to, it will be found that I mentioned the fact of having noticed numbers of black and shiny bees which I was sure were not robbers. On the two last mild days of November last I noticed at two hive-entrances a number of bees undergoing the teasing or dressing process; these were not robbers, I am sure. About half a dozen at each hive had, at the same time, a number gathered round them which appeared to be putting them through a strict examination, and

nibbling or biting them. This went on for several hours each day, and from each flight-board during the two days fell at least fifty bees, alive, but too "sick" to get up again. These were darker than the others, but had not reached the shiny stage.

The two stocks died during the last spell of frost. They had plenty of food, and were well wrapped and covered. Several others near, under same conditions as to food, &c., but much weaker at beginning of winter, have come through all right, and will make good stocks. Now, is it not possible—and probable—that these bees were affected by the microbe mentioned in the last paragraph of your editorial headed "New Light on Brood Diseases" (page 101)? If I come across any more affected in similar manner I will contrive to send you a few live specimens, if possible.—NONDESCRIPT, Notts, March 18.

AMONG THE BEE-KEEPERS.

[6655.] My friend, J. E. Ellis, has been supplying "Ross-shire Notes" to the B.B.J. pretty frequently of late, and I am sure readers of the same are always pleased to see his interesting and entertaining contributions. His attempts to raise another discussion on "tall sections" and "shallow-frames" have evidently failed, his motive being, I presume, to make things "more lively," a result that would be welcomed by those who are not "apprentice bee-keepers." I think, however, that Mr. Ellis's failure is due to the fact that he has not the courage of his own convictions. Anyone can see that, so far as the tall sections are concerned, judging from his own account of his experience of them, he considers the tall section superior to the ordinary square one. At the same time he informs readers that he is still on the top of the fence, and asks them to engage in another battle while he poses there an interested spectator.

It looks, however, as if Mr. Ellis will get a discussion raised in a way he did not expect. I see the alert and ever-watchful Mr. Crawshaw is on his track (page 96, "Size of Brood-Frames"). I hope Mr. Ellis will be able to account for his apparent inconsistency; I have no doubt he will attempt to do so. At the same time, I have an idea that his explanation will lead to more controversy.

Regarding the tall section (which is supposed to be dead and buried), I have been amused to see at various times attempts being made by its victorious (?) opponents to raise it up again, so that they might satisfy themselves that it was really dead! Not for a moment supposing that they would enjoy the killing of it over again. I hope those gentlemen won't mind me comparing them to my collie dog (he is a very nice, sensible dog), and he does the very same thing when he kills a rat! After a little while (if not otherwise engaged) he always goes and gives the dead rat a second squeeze, apparently to make sure that the killing has been effectual. I would advise Mr. Ellis to keep quiet about those tall sections, for, although we find a readier market for them just now, the demand would soon be lessened if other bee-keepers were in a position to supply the same. In view of the woeful predictions as to the future price of honey, I think my advice is sound; it may be considered selfish by some. If the producers of tall sections are comfortable and happy in their own boat, why seek to overload it and run the risk of sinking the lot?—A. REID, Balloan, Muir-of-Ord, N.B.

TEETOTAL INTOLERANCE.

TEMPERATE BEE-MEN NOT NECESSARILY DRUNKARDS.

[6656.] On behalf of the vast army of temperate bee-men who are not total abstainers I wish to protest against Mr. Archer's remarks in describing his apiary in the B.B.J. (page 105):—"I think a teetotaler has a better chance of successfully grafting larvæ into queen-cups than the bee-keeper who 'likes his glass,' for it needs a steady hand and keen sight." I quite agree that a steady hand and keen sight are essential; but does Mr. Archer wish to convey the idea that *only* teetotalers possess these attributes? I venture to state that quite as large a proportion of non-teetotalers have both. This is the kind of Pharisaical speaking that some total abstainers affect. They apparently consider that everyone who is not a total abstainer must be a drunkard—an absurd contention that does much harm to the total abstinence cause. Millions of non-teetotalers have never indulged in alcoholic liquor to excess, and it is worse than nonsense to brand them as such. But, apart from this, the words used by Mr. Archer are altogether foreign to the subject in hand.—D. G. TAYLOR, Ilminster, March 15.

(*Correspondence continued on page* 116.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

The fact of Mr. Pidduck—whose apiary is shown on next page—being a certificated expert, and busily engaged each season in touring work in the county of Lancashire, make his personal experiences of more than ordinary value, and his "notes" will be read with interest.

"For many years past bees have been my pet hobby, and I find the study of them very fascinating; always something new to think out; some new method to try; and if your work is reasonably well done (and with ordinary luck), there is some hard cash in hand at the year's end. The great drawback to success in the eyes of some who make a start in the pursuit appears to be foul brood, but I firmly believe that any intelligent man can clear his apiary of the pest by taking a little trouble at the right time. My own experience is that an almost certain cure will result if the starvation method, followed by the use of new foundation, is properly carried out *in the spring*. Those who find the disease present on examination early in the season should on no account defer treatment until the honey-season is over, hoping thereby to secure a larger surplus. I find that bees treated in the spring work up their strength and vigour quickly, helped no doubt by the energy which summer's inflow brings, and in a way that does not follow in autumn. I am also a believer in swarms. 'Let 'em all come,' say I, if they will come early enough. Many will no doubt disagree from this; nevertheless, I consider a stock which can be made to send out a swarm not later than first week in June will pay its way as well as any stock in the apiary by hiving the swarm on the old stand, and dividing the parent stock into three or four nuclei. The surplus honey from swarm will be of the finest quality, and you have a number of naturally-reared queens in nucleus-hives for increase or sale. On the question of supering I find it best to always start with a box of shallow-frames with excluder under, even when intending to work for sections, and when the frames are partly full I place the section-rack underneath, after removing the excluder: and with me a spoilt section is the exception. Although so much has been said against foreign bees, my experience is entirely in their favour. They are no doubt confirmed robbers; but I believe a good 'robber' is a good 'forager.' A slight alteration of the father's advice to his son, 'Get honey; honestly if you can, but get it!' fits the foreign bee like a glove. Otherwise the Carniolan seems an ideal race for easy handling. Their habit of adhering to their combs under manipulation gives the required confidence, and as workers I think they hold their own with any other race.

MR. E. J. PIDDUCK'S APIARY, ALSAGER, CHESHIRE.

"Another question I have had some experience of is the claustral hive and detention-chamber. This device has proved itself most useful for hiving nucleus lots when dividing swarmed stocks; also for preventing small lots of bees from getting robbed out at the end of the honey-flow. It is also excellent as a protection against the elements in many ways. On the question of dealing with pollen-clogged combs I consider money well spent in replacing such combs with full sheets of foundation placed in the middle of brood-nest from April onwards.

"I can't close these 'notes' without in-

viting the attention of young people to the craft of bee-keeping, believing as I do that they are better with a hobby of some sort. I contend a more interesting and remunerative ownership than that of a nice apiary can hardly be found. At Altrincham, in Cheshire, there is, under the able guidance of the schoolmaster, an example of a first-class school apiary; many of the boys are members of the Cheshire B.K.A. and owners of good stocks of bees.

"In conclusion I may say my little son (shown in the photo) owns and manages three stocks, and can do almost anything in the apiary, from caging a queen for sale to hiving a swarm. A new little bicycle was the outcome of his last season's profits."

(*Correspondence continued from page* 114.)

EXPERT HELP FOR BEGINNERS.

[6657.] Referring to the letter of your correspondent "(Miss) K. M. A., Bridgnorth" (3475, page 97), will you kindly refer this lady to me? I have just been appointed expert to the Shropshire B.K.A., and shall be pleased to call and render assistance and advise if required, free of cost. You will receive notice of our annual meeting to insert in your valuable paper in due course, if not already in your hands. I am only six miles from Bridgnorth, and am anxious to get all the members I can.—PETER SCOTT, Second-Class Expert, Rose Cottage, Broseley, Shropshire.

WILL BEE-KEEPING CEASE TO PAY?

[6658.] Mr. Woodley has in his recent "Notes" drawn attention to the boasting indulged in by some bee-keepers as to prices, &c., and rightly points out that it is an inducement to our rivals to flood the market with the foreign product. I do not know of any industry, apart from bee-keeping, in which such lack of business foresight is manifested. The grocer, the ironmonger, or the appliance-maker does not publish his private earnings to the world: why should bee-keepers? We live in an age of competition, which we may not entirely admire, but while it exists we must observe its rules or be crushed out. I believe in being as altruistic as we can; but surely it is wrong to allow ourselves to be crushed, and to assist in that operation ourselves? I very much fear that in a few years the boundless resources of America's honey-producing acres, rent free, and with low carriage to this country, will flood not only British bee-keepers out of existence, but also many of our fruit-growers. I believe that goods come here at a lower cost for carriage than we enjoy. Our only hope, therefore, lies in the superior quality of our native-grown products in some cases. The Californian honey I have tried was clear and nice-looking, but with no more flavour than sugar syrup. Personally, I have no intention of increasing my stock of bees unless the market becomes more hopeful. It is melancholy to see so much honey advertised as still unsold. But I fear this is only the first indication of decay. Foul brood we can stand, but not a swamped market. I hope time may prove my fears to be needless, but they are reasonably grounded at present. It is a thousand pities that our country industries are so handicapped by heavy charges for carriage, &c. Foreign goods should not get lower rates on our railways than ours get.—W. J. FARMER.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Cobwebs (page 91).—The housekeeper's broom is a strict necessity, though it is open to question whether after all it makes room only for further "cobwebs." Cobwebs are not wholly without use, though one desires that they should not claim bees amongst their victims. So, if in spring cleaning one appears a little ruthless, it is not to grudge the spider right of life, nor solely with the object of destroying that which may still be of value to those who know best how to utilise the silk in the so-patiently-spun cobwebs.

Kilts (page 94).—This picture of a Highland chieftain of bees is decidedly of the impressionist school! One feels that even a Scottish hero would stand not upon the order of his going, but that if he dared a "lingering" death he would be better off when "kilt entirely"!

Curing "Robbing" (page 94).—In the "Stock Exchange" cure I have often wondered what happens when one stock proves to be robbed by several others. Does this involve "general post," or is the robbed hive exchanged in turn for each of its assailants? The work, in any case, is rather back-breaking, as some of these robbers have no conscience in their greed, and their hives are sometimes heavy.

I have used with success a ventilated bee-trap, into which, after the bees have been sufficiently confined, a queen may be introduced, in default of the bees being utilised elsewhere.

Results from Swarms (page 104).—No. 6647 will perhaps forgive me for pointing out that he is not absolutely just in his casuistry. All of his conditions but the respective dates of the honey-flows apply equally to both cases. The advice which he criticises—viz., to hive a swarm upon starters after the honey-season has begun—is given in order to secure work

upon the foundation or drawn comb in the *sections*. The object is to obtain surplus even at the expense of the brood-combs, which may be artificially supplied later; but a swarm has a natural instinct to build, and the brood-combs are often built rapidly under favouring conditions. Of course, where a swarm has been confined, and has suffered a long journey, the desire may be abated.

Bees in Chimney (page 105).—It might be possible to remove a swarm from this position by the use of a carbolic cloth. A string might be lowered down the chimney by the expedient of a small weight, and then have attached to the lower end a powerfully scented cloth. This should then be drawn very slowly up the chimney. All side openings in the chimney-pot should be stopped, and the bees should, if possible, be trapped upon exit, or strained through a cone with an aperture of excluder zinc. Of course, the usual chimney-sweeping precautions should be taken!

South Africa (page 106).—This is evidently the El Dorado of bee-keepers, unless I have mis-read the letter. Twelve supers from one hive, and more to follow! American supers usually hold twenty-four to twenty-eight sections—say the smaller size: 288 lb. as a first instalment! Full-depth supers would weigh more than double this amount. But perhaps this is only a poor season! It is well that the American hive has no legs! If the writer did not specifically state that he possesses only a single frame-hive, one might imagine that this was the surplus of his whole apiary. But this from one hive of rather mixed or hybrid bees! Who has a word to say about hybrids now? And all this without a mark of exclamation! So here it is!

Queries and Replies.

[3485.] *Ridding Superfluous Drones.*—I am much interested in your journal week by week, and especially the "Queries and Replies," but not having seen a similar case to one that I have on hand, I venture to ask if you can help me out of the following difficulty:—One of my colonies seemed to produce an inordinate number of drones last season. I killed something like 3,000 of them, yet leaving an abundance behind. Still, the stock worked well, yielding from fifty to sixty well-filled sections, and a good many partly filled ones, besides storing the fourteen standard frames in the hive well filled with sealed honey. I would, however, like to supplant the drone-breeding queen, and will tell you my idea of how to do it. I can get a small colony of bees with queen, which latter will, of course, be fertile, and I therefore ask:—Would it likely be a success if I drive this latter lot (they are in a box with fixed combs—practically a skep) on some fine day as soon as suitable, and unite them to the former lot, after having secured the drone-breeding queen; or what better plan can you suggest in the circumstances? Thanking you in anticipation, I send name for reference.—NOVICE, Bridge of Allan, N.B.

REPLY.—We fear you are attributing the mischief complained of to the wrong cause. The queen is probably a good and prolific one, as proved by the weight of honey gathered by her offspring. It is the *combs* in the hive that are the cause of superfluous drones, and if you could cut out nearly all the drone-comb and replace it with comb-foundation, the stock would be all right, and probably do as well this season as last.

[3486.] *Bees Found Dead in February.*—1. I enclose a sample of comb for you to see and tell me if it contains the remains of foul brood. I found the bees all dead about a fortnight ago, but imagined at the time that they must have died from cold during the severe frosts of January, as they had some candy left. The combs did not appear to have the appearance they now present when packed for winter, and the bees seemed too strong in numbers for a diseased stock. 2. Would combs like enclosed be any use to boil up for wax? I shall be much obliged to hear what you think in your valuable journal, to which I am a subscriber.—ENQUIRER.

REPLY.—1. The comb sent is badly affected with foul brood, and should be burnt without delay to avoid risk to other stocks. The colony must have been in a bad way when packed for winter, as the disease had no doubt got a firm hold at that time. 2. Burn the combs and loose contents of the hive, which latter must be thoroughly disinfected before being again used. It is safer and more economical in the long run to burn such combs as yours outright.

[3487.] *Bees Robbed Out.*—During last autumn one of my stocks was destroyed, apparently by "robbing," as, on opening the hive when I first discovered that robbing was taking place, I found no bees whatever belonging to hive or brood of any age. I rescued the ten frames before the robbers had carried off the contents, most of them being full of sealed honey or pollen. They were stored carefully with the idea of giving them to swarms this spring, but on examining them last week I discovered that the pollen has become mildewed all over, and the honey in the few cells unsealed is now very thin and watery, so that it is probably fermented. Would you kindly tell me if I can treat them in any way, or suggest a

use to which I can put them?—S. H., Ashford, Kent.

Reply.—You might with advantage place the combs of mildewed pollen under a gently-running water-tap for a time, and thus wash off most of the fungus growth known as mildew. The combs after drying may be given to bees to clean up for use. With regard to the watery honey in a few unsealed cells, it will do no appreciable harm if given to a swarm.

[3488.] *Undeveloped Bees.*—During last season I kept a stock in a straw skep, the bees of which increased in numbers slowly, owing, as I thought, to many of them being deficient in their wings when they hatched out. On warm days I could pick up a dozen or more, some with half-developed wings, some entirely wingless, the latter looking strange objects when running about on my hands. Would you, therefore, kindly tell me through B.B.J. what caused this uncommon appearance and the best way to prevent it? Thanks for your reply *re* foul brood. I burnt the skep as advised.—J. H. Walker, Aspley Guise.

Reply.—The primary cause of the absence of wings in some young bees and aborted wings in others was the want of sufficient warmth during the process of hatching necessary for proper development of the brood. Unmatured bees are seldom seen in any but weak stocks, and your skep was evidently a weak one. The only preventive is to keep none but strong stocks.

[3489.] *Moving Diseased Stocks.*—Will you please advise me on the following? I have two stocks of bees in frame-hives, and both of them are affected with foul brood. The district where they are now located has been troubled with that disease for years past; and having removed six miles away to my present place, I am naturally anxious to transport the hives here. But as several people keep bees close by, and I have not heard of anyone's stocks being diseased, I should not like to risk spreading the disease by bringing the bees here. Would it be best for me to starve them for forty-eight hours where they now are, and during that time scorch the insides of the hives with a painter's lamp? If so, when could I do this with safety in the present weather? I may say that both stocks were very strong in the autumn, and I had a good quantity of honey from them last year. Name sent for reference.—Learner, Kidderminster, March 13.

Reply.—Apart from total destruction, the course you propose to follow is the safest and best. As regards time for operating, it will need waiting for—until a week or so of continuous warm weather may be counted on, because homeless bees cannot build combs to furnish their new dwelling if the temperature is nearly at freezing-point.

[3490.] *Re-queening in Spring.*—I had a swarm of bees given me last May, which were placed in an ordinary standard-frame hive. They did moderately well, but I do not think the queen is really a prolific one, and will therefore be obliged if you will inform me if it will be of subsequent advantage to purchase a good queen, and do away with the old one during this spring, or is re-queening essentially an autumn business? If it is best to do it this spring, please say what will be the most suitable time. Also if any special precautions are necessary when re-queening in spring instead of autumn. Thanking you in anticipation. —R. Stanley, Wanstead.

Reply.—If the queen now at the head of the colony is old and worn out, it will be practically wasting the season to retain her any longer than is necessary. The date for operating will largely depend on your being able to procure a desirable queen. If purchased from a reliable breeder or dealer, you had best follow the instructions he will no doubt send with regard to method of introduction.

[3491.] *Sealed Queen-Cells in March.*—I shall be glad if you can advise me in the following case. I examined a hive of bees to-day, and found the stock very strong, covering six frames, with plenty of stores and brood on four combs. I saw no queen and no eggs, but there were a few larvæ about a week old, and six queen-cells capped over and apparently ready to hatch out. Shall I open these queen-cells to see if they contain queens or not, or shall I wait a few days and see if any eggs appear, or shall I unite two weak colonies and give one of the queens to this stock? I was tempted to open one of the queen-cells to see if there was really a queen-larva inside, or whether a worker-bee was enclosed, or whether only empty cells had been capped over.—J. M. P., Hollington, March 13.

Reply.—It is plainly evident that the queen heading the stock in question has been tempted abroad by bright sunshine, and from some cause has failed to return. In any case, the sealed queen-cells will be of no permanent use (even if they now contain normal queen-larvæ) beyond keeping the bees in good heart and condition for receiving the young queen it is proposed to give them when weather becomes warmer.

PRESS CUTTING.

WASPS AS HONEY-GATHERERS.

The average countryman would laugh at you if you were to tell him that you had seen the wasps this summer playing

the part of the exemplary bee and gathering honey from the flowers in the garden. But the countryman would be wrong and you would be right, for of late, for some mysterious reason, the wasps have been busy among the tall, flaming spikes of the red-hot pokers (*Tritoma uvaria*), whose blooms are especially fine this August.

What the bees think of it one cannot say, but they are not to be seen mingling with the wasps. The latter, when they feel inclined towards honey, usually make an attack upon the nearest bee-hive, and very often come off second best, unless they attack in force. But now that the wasp has shown an inclination to gather honey first-hand from flowers, surely the scientist can step in and teach it to store it for the needs of man in the comb, which it can already make as perfectly as the bee, though of a different material. The chief difficulty, perhaps, would be to prevent the wasp, like the child in the strawberry bed, from eating all he gathers on the spot.—*Pall Mall Gazette.*

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

*** Owing to a clerical "slip" in the footnote to Mr. Hoole's letter (6649, page 106), the name of the "bee-wasps" sent from South Africa (*Philanthus apivorum*) was printed in French instead of Latin. This may possibly lead to confusion if not corrected as above. We may also mention that the *P. apivorum* was described and illustrated along with other sand wasps, the females of which prey on bees and carry them off to provision their nests. They are commonly known in South Africa as "bee-pirates." Those interested may refer to B.B.J. of September 5, 1901 (page 353, vol. xxix.).

Bee-keeper (Newington).—*Bee-parasites.*—The tiny reddish-coloured insect supposed by your friend to indicate disease among your bees is a bee-parasite—*Braula cœca*. It is very troublesome if the bees are badly infested with it, as the queen is invariably found to be troubled more than the workers, and the pest naturally interferes with her laying powers. The *Braula* is an alien in this country, and only a few are seen. No notice need be taken of them, as they usually die out in a few months, this country not being favourable to their increase.

(Miss) K. M. A. (Bridgnorth, Salop). *Transferring Bees to New Hives.*—We cannot undertake to reply privately to inquiries on bee-management. To do so would entirely occupy several pairs of hands. Besides, no "amateur bee-keeper" (lady or gentleman) should try to manage bees without the help of a "Guide Book," in which will be found full instructions for transferring bees.

H. Hill (Ockbrook, Derby).—*Classifying Advertisements.*—To arrange our prepaid advertisement columns under different headings might help our busy readers in saving their time, but would obviously tend, as we think, to the disadvantage of advertisers. The prepaid column is recognised as one of the most valuable features of the B.B.J. to our certain knowledge, and we frequently receive written testimony to the fact of the "prepaids" being read as eagerly as any part of the paper. Your proposal would lessen this advantage considerably. It surely should not be a cause of complaint for our advertisements to "get so numerous as to be difficult to follow them," as you say. Most readers will—we hope—share our satisfaction, and say with us, "Let 'em all come," as they are full of interest to the great body of our readers.

(Mrs.) D. E. W. (Sussex).—*Danger from Robbing Infected Stocks.*—By giving medicated food to the robber bees the danger of infection is minimised, of course, and the danger is still further reduced by the fact of the "robbers" belonging to very strong, vigorous colonies. We need hardly say a strict watch should be kept on the hatching brood in the latter at the end of next month. You acted wisely in promptly destroying the diseased stock.

F. C. Page (Kettering).—*Seeds for Bee-forage.*—1. The firm named will send you the list of flowers post free on application. 2. We do not advise the use of narrow sections (1½ in. wide) for showing. They would not meet the requirements of the show schedule defining them as 1-lb. sections.

Skeppist (Cirencester). — *Preventing Swarming.*—1. Specimens sent are worker-bees of the common brown or native variety. 2. We strongly advise you not to use straw skeps as supers to prevent swarming. You are far more

likely to succeed by using a box of shallow-frames as a super.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

"NEVER SWARM" SYSTEM, twelve years' absolute success and double surplus, free, 3½d.; Spring Feeders, "The Best," refilled without removal, 1s. 6d.; 12, 16s., free.—HARRIS, Wavendon, Bletchley, Bucks x 24

GUARANTEED HEALTHY, "Never Swarm" Queens, of 1906, in travelling and introducing cages, 7s. 6d.; Five-Frame Nuclei, Brood Stores, and Queens of 1906, 15s. — HARRIS, Wavendon, Bletchley, Bucks. x 23

SIX STRONG, HEALTHY STOCKS, with young Queens, plenty of stores, 25s. each; Honey Extractor, with cover, 16s. 6d.; smaller one, 14s. 6d. —BOWMAN, Bee Expert, Workington. x 12

WANTED, a suitable place to keep six Hives of Bees, as near Manchester as possible, near Heather preferred.—STRUGGLES, Brunswick-street, Manchester. x 15

BEE-FOOD SEEDS.—Chapman Honey Plant, Limnanthes, Bokhara Clover, each 6d. packet, 1s. 4d. the three, carriage paid.—BAYLEY, Fair View Apiary, Sellindge, Hythe, Kent. x 16

THREE Good "W. B. C." Hives, used two seasons, almost new, 10s. each, including Bar-Frames and Section Racks. Approval.—HARRISON, Bee Farm, Middleton, Pickering. x 17

FOUNDATION STRETCHING stopped by simple device, better than wiring, costs no more after first, every cell free for breeding, successful where tried; set for one frame, 1s. 1d. P.O.; no more odd samples, make for your own use, but dealers keep off, patent applied for.—W. PALMER, 174, Curzon-street, Netherfield, Nottingham. x 22

EXCHANGE "Gardeners' Chronicle" from 12th March, 1903, to 16th Oct., 1906, clean, with Supplements, for "Bee Journals" before 1892. —Address, L. GOFFIN, Wakes Colne, Essex. x 21

WILL EXCHANGE 100-egg Incubator, in working order, good hatcher, for Bees.—ROSEHURST, Pannal Ash, Harrogate. x 20

PURE ENGLISH GRANULATED HONEY, 14s. per 28 lb. tin; sample, 2d.—GEORGE WEBB, Berghers Hill, Wooburn Green, Bucks. x 14

FROM the Apiary of the late John Stone.—30 healthy Stocks of Bees for sale, guaranteed free from foul brood, all young queens, £1 each, on eight Standard Frames, in travelling box; full apiary, consisting of forty-eight Stocks. — Apply, JOHN STONE, Little Cubley, Sudbury, Derby. x 11

FINEST ENGLISH HONEY, 14s. per 28 lb. tin; sample, 2d.—DUTTON, Terling, Essex. x 9

WANTED, useful Bicycle. Will exchange strong Stocks of Bees, in good Bar Frame Hives.—SHELDON, Bishopswood, Ross, Herefordshire. x 6

WANTED, Secondhand Extractor, to take Standard Shallow Frames, geared preferred; must be in good condition.—Write, C. RICHARDS, Florence Villa, Ilfracombe. x 5

WILL EXCHANGE for Bee Appliances to value of 15s., Taylor's Patent Lockstitch Hand Sewing Machine, in perfect working order, cash, 12s. 6d. — HELLARD, 51, St. John-street, Bridgwater, Somerset. x 3

Special Prepaid Advertisements.—*Continued.*

WANTED, Honey Extractor, in good condition, cheap for cash.—WINSON, Harleston, Norfolk. x 18

STOCK OF CARNIOLANS, healthy, with pure queen, wanted; also Shallow Standard Frames of Worker Combs.—Write, REID, Barringtonsbridge, co. Limerick. x 19

HEALTHY Stocks, in Bar Frame Hives, 20s. to 25s.; on Frames, 3s. per frame; also White Wyandotte Eggs, for sitting, 3s. doz.—HEMMING BROS., Standlake, Witney. x 13

"W. B.C." HIVE, nearly new, complete, with Brood Box and two Shallow Frame Boxes, drawn out comb, ready for Stock or Swarm, guaranteed healthy, £1, bargain; "Lawn" Hive, complete, with Brood Box and Shallow Box, with combs, ready for use, guaranteed healthy, 12s.; also quantity Frames and Sections, in flat, and about 1 gross metal ends, wide and ordinary, cheap. Approval; deposit.—JOHN A. HOYLE, Ashfield, Tram Terminus, Slaithwaite, Huddersfield. x 10

FOR SALE, FREEHOLD, a well-built six-roomed Bungalow, with greenhouse, sheds, &c., 1½ acres of land, 1 acre planted fruit trees, asparagus, raspberries, strawberries, well established and in splendid condition, eight stocks of Bees; death of husband cause of selling.—Apply, MRS. HARE, Carterton, Clanfield, Oxfordshire. x 4

EGGS from Buff Orpingtons, White Wyandottes, Black Leghorns, all most prolific, pedigree winter layers, and splendid type, chicks hatching very strong, sittings 4s., ten to hatch or another half price. — DART, Newlands, Two Mile Ash, Horsham. x 8

FOR SALE, New Hudson Cycle, free wheel, rim brakes, and all latest improvements, £3, bargain. — Apply, W. HOCKIN, 5, Victoria-square, Holsworthy. x 7

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

WANTED, Certificated Experts. Particulars, with testimonials.—G. W. AVERY, Hon. Sec. C.B.K.A., Armathwaite, R.S.O., Carlisle. w 2

WANTED, few dozen new, clean, Standard Frames, Abbott's pattern, cheap.—WALLACE, 26, Pall Mall, Manchester. w 80

FOR SALE, seven Stocks of Bees, in almost new Standard Frame Hives, guaranteed healthy.—MOORCROFT, Long Marton, Carlisle. w 89

FIVE STOCKS of BEES, in good Bar-frame Hives; standing at Woodgreen, Breamore, near Salisbury. Price 4 guineas; buyer to remove.—Apply to BROOKS, Woolley Grange, Bradford-on-Avon, Wilts. w 88

LIGHT GRANULATED HONEY, 1-lb. screw-cap jars, 8s. 6d. dozen; bulk, 56s. cwt.—CHARTER, Tattingstone, Ipswich. w 86

WANTED, Pure English Beeswax, any quantity, for cash.—W. CHILTON, Polegate, Sussex. w 99

FINEST HEATHER or CLOVER, jars or bulk. —STOCKS, 44, Bentley-road, Doncaster. w 87

WELL-MADE double-walled hives, with strong, healthy Italian hybrid bees, for sale.—Write 13, The Circus, Greenwich. v 93

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw cap jars, 7s. doz., 77s. gross; ½ lb. ditto, 4s. 6d. doz., 45s. gross; 14 oz. ditto, 6s. 6d. doz., 72s. gross; Honey in bulk, 48s. cwt.; pure breed sitting eggs, 4s., guaranteed.—TURNER BROS., Sandpit Poultry Farm, Croydon. w 65

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

ANNUAL MEETING.

The annual general meeting of the B.B.K.A. was held on Thursday, March 21, at 4 p.m., in the Board Room of the Royal Society for the Prevention of Cruelty to Animals, 105, Jermyn Street, Mr. T. W. Cowan (chairman) presiding. Among those present were Mrs. E. E. Ford, Mrs. A. M. Goldsworthy, Mrs. J. C. Mason, Miss Gayton, Miss K. M. Hall, Miss G. E. Shaw, Gen. Sir Stanley Edwardes, Colonel H. J. O. Walker, the Rev. J. R. Dummelow and T. R. Bridgwater, Esq. (representing the Worshipful Company of Wax Chandlers), Rev. W. E. Burkitt, Dr. T. S. Elliot, Messrs. R. T. Andrews, F. T. Bernau, W. Boxwell, T. Bevan, B. E. Buckwell, W. Broughton Carr, L. S. Crawshaw, W. Dunmall, Geo. Dow, H. Edwards, G. S. Faunch, L. S. Goffin, W. J. Goldsworthy, J. G. Hurst, H. J. Jolly, R. Lee, J. C. Mason, W. J. Owens, A. G. Pugh, W. F. Reid, A. Schofield, W. Sole, A. W. Salmon, E. H. Seadon, G. H. Sander, H. E. Staitin, S. E. Smith, E. D. Till, T. I. Weston, E. Walker, J. Willard, A. Willmott, J. Waterfield, W. Ward, and E. H. Young (secretary).

The secretary read the minutes of the last annual general meeting, which were duly confirmed and signed.

The Chairman then said: The report now before me, and which has been circulated among the members, begins with a paragraph expressing the keen regret of the Association at the loss of its president. It was a great blow to us, especially as so recently as last year she was very nearly with us at our annual meeting. When the Council received the melancholy news they took the necessary steps to show their esteem for the distinguished lady by sending a wreath and deputing two members of the Council to attend the funeral. I was ill at the time, and it was a sorrow to me not to be able to represent the Association, but in my place Mr. Carr and Mr. Reid were present in the Abbey to show our respect on the mournful occasion. We also sent a letter of condolence to Mr. Burdett-Coutts. I am sure all here will agree that the Association has suffered a loss it will be very hard to replace. You will be asked today to elect a new president, and the Council, after fully considering the matter, conceived the idea of becoming connected if possible with one of the ancient City Companies or Guilds; and there was none more suitable for the purpose than the "Wax Chandlers," which had been connected with the craft of bee-culture from the time of their formation several centuries ago. Mr. Weston was accordingly deputed to see the Clerk of the Company and find out whether anything could be done to induce the Master of that Company to become our president. Our overtures were received favourably, and the reply came that if the Bee-keepers' Association wished to elect the Worshipful Master as president he would be happy to stand. (General applause.) We are therefore now going to nominate H. C. Todd, Esq., the Master of the Company, as president, and likewise to alter the rule so as to make it conformable, and permit of the reigning Master of the Company being president of our Association. The Master of the Wax Chandlers' Company is changed once in two years, so that as long as this arrangement is retained we shall have a new president every two years. (Applause.)

With regard to finance, our complaint is that we want more members and more money. We have calls upon us that we cannot undertake and fulfil for want of funds. If I were to tell you what other societies connected with bee-keeping are doing in other countries it would surprise you. I would be glad to give full particulars if it would help you to get more members. Our members so frequently transfer their support to their own county associations; and we, on our part, recommend (as we feel we ought to do) prospective members to join the associations in their own districts. It therefore becomes obvious that we do not often gain new members. If the county associations would induce their wealthy members to subscribe to the parent body it would be an advantage to the cause generally, because at present when deaths occur the losses are not replaced. This year we ought to have six more members to fill vacancies.

The report of the expert is very satisfactory. Mr. Herrod declares the apiary at Swanley to be clear of foul brood, as before. With reference to examinations for experts' certificates, the number of candidates presented was 128 as against 110 in 1905. The successful candidates numbered 87 in 1906 against 84 in 1905. In both years the successful candidates were principally ladies, and it is greatly to the credit of Mr. Herrod that the ladies came out so well, the majority having received instruction from him at Swanley. The certificates of the Association are regarded in other countries as valuable, and will be advantageous to their holders anywhere in the bee-world. In this way our certificated experts have obtained good situations abroad connected with the craft. Miss Livesey, now of New Zealand, received her present ap-

pointment under the N.Z. Government entirely on the strength of our certificate.

With regard to insurance, there has been a slight increase in the number of hives insured, although a slight falling off is noticeable just now owing to the time having arrived when the policies lapse. It having been thought desirable in the general interest of all concerned for the insurance to begin from March 25 in future, that course has been adopted. With these few remarks I will ask you to receive and adopt the report and balance-sheet as printed.

Mr. Waterfield said that, being outside the Council of the B.B.K.A., he was in a position to second the adoption of the report and financial statement. As secretary for twelve years of the Leicester B.K.A. he knew something of the anxiety and labour entailed in carrying on the work of a county association, and he could realise the force of Mr. Cowan's view when he said that members in the counties did not support the parent body. Unfortunately, however, it was a rather difficult matter for the county associations to support themselves, and that was where the "rub" came in; but he trusted things would improve. In his county they had adopted a lady president, and he hoped they might be able to secure the financial help of two or three wealthy persons on behalf of the parent Association.

The resolution was carried unanimously.

Mr. Sander had great pleasure in proposing a vote of thanks to the retiring Council and officers, and would like specially to couple the name of the chairman (Mr. Cowan) therewith.

Mr. Dow was very pleased to second the motion, which was carried unanimously.

Mr. W. F. Reid proposed a vote of thanks to the R.S.P.C.A. for the gratuitous use of their Board Room for Council and other meetings. He had the idea that in according this permission the R.S.P.C.A. were carrying out most fully their objects, because one only had to consider the enormous number of bees that were formerly killed unnecessarily under the old methods. The number of horses, cattle, and other animals that suffered would be infinitesimal compared with that of the bees, all of which cruelty to animals—for bees, too, were animals—the Association had been able to stop.

Mr. Pugh, in seconding the resolution, said he had attended annual meetings of the Association for some years, and the kindness of the R.S.P.C.A. appealed to him every time he had been present. It was an admirable room for their meetings.

The resolution was carried unanimously.

The Chairman said he wished to mention that they owed the advantage of meeting in that room entirely to the late Baroness Burdett-Coutts. She was the first to propose that the members of the Association should assemble there. He (the chairman) therefore proposed that the committee should ask for a continuance of the favour.

Mr. Carr seconded the motion, which was carried unanimously.

Mr. Weston said that the lamented decease of their late president caused serious searchings of heart among them as to where they might look for anyone who would worthily succeed her, for she had done much for the Association. She was heart and soul in its work; she studied it, and liberally helped it when necessary, not with a free hand, but with discrimination and a careful consideration of what was required at the time. They had looked here and there for a while in vain, and then it occurred to them that there was in the City of London (dating as far back as 1371) an ancient Guild of Wax Chandlers, whose trade would not have been possible without the existence of bees. In view of this they decided to approach that body; and the Council having empowered him to see them, he did so, and found himself met almost half-way, although the members of that Guild now were anything but wax chandlers by trade—that business being almost extinct. Yet on their doors and on their "staff" of office are to be found representations of the straw skep of our forefathers, and there were other things connected with bees about the place, showing how in the old days the wax chandlers were intimately connected with bee-keeping. He really believed the Company was quite glad to find there was an Association like the B.B.K.A. to ask them to do something to help on so ancient an industry as that of bee-keeping. Anyway, he was sure the members would be pleased if it was so. They said: "We know nothing of bee-keeping, but we shall see what you do, and if we find the work is what we can support, we shall heartily do so." They are not one of the very wealthy Companies, and of course they have certain trusts and charities to keep up; but beyond that they might be able to help the Association at times, perhaps, just as the Baroness did. Their Master was changed every two years, and he (Mr. Weston) hoped they would at times see him here. He now moved "That the President of this Association be the Master of the Worshipful Company of Wax Chandlers for the time being."

Colonel Walker seconded the resolution with great pleasure. It must have been a difficult thing to find a successor under the circumstances, and the gratitude of

the members was largely due to Mr. Weston, whose luminous brain suggested the happy selection they had made. He could not conceive anything better; it was sentimental and practical at the same time.

The resolution was carried unanimously.

The Chairman said he wished to mention what he would not allude to before the resolution was passed, viz., that the Master had already presented the B.B.K.A. with a donation of ten guineas. (Applause.)

Mr. Edwards proposed the next resolution, which was: The re-election of the vice-presidents, with Sir James Whitehead, Bart., at their head, followed by the presidents of all the county associations in the kingdom; also the honorary members and corresponding members, treasurer, auditor, and analyst for the year 1907, in accordance with Rules 5 and 9.

Mr. Pugh seconded the resolution, which was carried unanimously.

Mr. Willard proposed the election of the Council for 1907. First on the list was their admirable chairman, Mr. Cowan. They all knew his worth, his ability, and the good he had done to the cause. The speaker then read out the other names, adding, in order to fill vacancies, the names of Miss K. M. Hall and Emile Garcke, Esq. They were all good and true workers for the advancement of bee-keeping.

Mr. Sander seconded the motion, which was carried unanimously.

The Chairman proposed to add to Rule 3 the words: "The Master of the Worshipful Company of Wax Chandlers for the time being shall be the President of the Association." This alteration of rule was necessitated by the election which had just taken place. Also it was proposed to strike the word "president" out of Rule 9.

Colonel Walker seconded the resolution, which was carried unanimously.

The Chairman stated that the business of the annual meeting was now ended unless anyone wished to bring forward anything for the consideration of the Council. He would be pleased to hear any suggestions.

Mr. Sander had been asked to inquire whether anything could be done by the parent body in the way of suggestion, or otherwise, to resuscitate the Kent Association. He believed a small association had been lately formed at Crayford, which might perhaps be made the nucleus of a larger one for the county.

The Chairman replied that Mr. Till had taken a great deal of trouble to that end. He (Mr. Till) had called a meeting of all the bee-keepers in Kent for April 6 at Eynsford. There were about 3,000 bee-keepers whose addresses were known in the county, and a valuable map had been prepared, showing the distribution of apiculturists, which map Mr. Till, who, they hoped, would be present later on at the Conversazione, would show to the meeting.

Mr. Dow could understand that the re-establishing of the Kent B.K.A. might come hard on the parent society, because many of them could not afford to subscribe to both. There were many bee-keepers in his district of St. Mary Cray, and he was persuaded that many of them would come to their assistance after a practical start had been made. He was also pleased to know of Mr. Till's efforts.

The Chairman quite realised that many bee-keepers could not afford to subscribe to two associations, and when a county association died out the B.B.K.A. obtained members from that county; but if the local association was re-established he always recommended that they should join it, as it was the first duty of a resident to support local effort.

Mr. Carr begged the gentlemen from Kent who had spoken to do their utmost to ensure a good meeting at Eynsford on the 6th prox. He hoped all would attend and do their best to persuade others.

Mr. Weston thought it should not be forgotten by the members of county associations that the central body did work which none of them were able to do, and it was for that work that they were asking subscriptions; for instance, there were the initiation and promotion of the insurance scheme, examination work, and educational work, in which they were supporting the best expert in the country, Mr. Herrod. There were also others matters quite outside anything that a county association would be called on to do.

Mr. Reid added that the Council had done everything in its power to resuscitate not only the Kent but the Sussex Association.

The Chairman then declared the proceedings connected with the annual meeting closed, but invited everyone present to remain for the Conversazione, which would be preceded by light refreshments.

At the close of the general meeting the newly elected Council held a brief meeting, under the presidency of Mr. T. W. Cowan, for the transaction of formal business, when the following new members were elected, viz.:—Mr. L. H. Berry, West End, Chobham, Surrey; Mr. J. Jorgensen, Stalheim, Plaistow Lane, Bromley, Kent.

On the motion of Col. Walker, seconded by Mr. T. I. Weston, Mr. T. W. Cowan was unanimously elected chairman of the Council for the ensuing year, Mr. Weston being similarly elected as vice-chairman.

It was resolved to hold the first-class examination in London on Thursday, May 16, and the second-class examination in the middle of November, as usual.

Meetings of the Council will be held on the third Thursday of each month, with the exception of August.

(*Report continued next week.*)

KENT BEE-KEEPERS' ASSOCIATION.

CONFERENCE AT EYNSFORD DRILL HALL.

The first edition of the bee-map referred to above will be printed this week, and a copy presented to some four hundred head teachers throughout Kent as a recognition of their kindly service in so carefully collecting addresses of bee-keepers in the county. Each will also be invited to the conference on April 6, and through the head teachers of Kent, invitations will be transmitted to the principal bee-keepers at each of the four hundred centres. When replies to the invitations are received, it will then be known how many will attend the conference. All necessary information as to the feeding arrangements, staying over Sunday for those who cannot get back on Saturday, and other data will be furnished in the circular-letter, which will be sent as promptly as possible.

Mr. Till having given a guarantee to the South-Eastern and Chatham Railway Company that not less than two hundred cheap tickets will be purchased from all over Kent at single fare and a quarter, it is to be hoped that bee-keepers will not be slow to avail themselves of the privilege of visiting the conference, otherwise the penalty for Mr. Till will be considerable.

There are many attractions in Eynsford, and also in the immediate neighbourhood—the Norman (ruined) castle, Lullingstone Castle and church, the mausoleum chapel of the Dyke family for six centuries and their effigies. In Eynsford Church, with Norman remains, commenced the quarrel between the King and Becket, and we are sorry to say that William of Eynsford Castle (no relation to Sir William Hart-Dyke) was privy to the murder of the Archbishop.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[6659.] We have had a few warm, sunny days since the 21st, which was with us the first spring day of the year. Bees have been busy on the artificial pollen and at the watering-places. Away to the woods a sparse sprinkling of flowers is seen. The palm, and here and there the dandelion, give employment to the little pollen-gatherers, so that if we are favoured with a continuance of sunshine a fairly good breadth of forage will be available.

The question "Will bee-keeping cease to yield enough profit to enable a man to make a living by keeping, say, 200 hives?" is, I think, more to the point than that it "compares favourably with the rabbit-hutch, poultry-pen, or pigeon-loft." To the man with a good income from some trade or profession the price he can realise for his sections or jars of honey is a minor matter. After his apiary is once established he is at no further expense, except for sections, foundation, and the jars required, the surplus honey secured being clear profit. But to the man who depends on his bee-farm for a living it will make a vast difference if the price of honey is continually on the down grade. In other words, it means a lessened income year by year. There is also another source of income which the few bee-farmers are feeling the loss of. I refer to queen-rearing (*vide* the advt. pages of B.B.J. in the season when queens are wanted; and the yearly increase in the list of B.B.K.A. experts, all of whom are—more or less—embryo queen-breeders). They certainly have to possess a smattering of the subject in order to pass the exams., and in the higher classes may be called upon to go somewhat further in their knowledge on the subject to get their parchment. The result will eventually be that prices of queens will rule low in the future. Thus the bee-farmer will have to use his best endeavours amongst such keen competition to win the means of living as a bee-keeper pure and simple.

I am not surprised at the trend of modern scientific discovery in respect to foul brood. We have so far touched only the fringe of the subject, and future investigations may establish the *fact* that *Bacillus alvei* is the result, not the cause, of foul brood.—W. Woodley, Beedon, Newbury.

ROSS-SHIRE NOTES.

ABOUT STORES IN SPRING.

[6660.] How strange it seems that a great number of bee-keepers should fail to realise the vital importance of providing their stocks with ample stores to ensure not only safe wintering, but safety and progress through the trying spring weather which often characterises the time of building-up for the honey-flow of the coming season.

Some people have no hesitation in robbing the brood-nest of stores, seemingly thinking that all is well if sufficient is left to last until March. This practice is commendable only from the candy-vendor's point of view. To the naked eye this candy-making business seems more profitable than honey-raising. Sugar can be bought for 2d. a pound, and after slight manipulation with fire and water sells readily at 5d. to 6d. per 1-lb. cake of candy, which, as your advertising columns show, is the value that many bee-keepers put on their honey. It was formerly thought that bees were best prepared for winter by being crowded on to seven or eight frames. Some think that way still, but the majority have lost faith in contraction. I firmly believe that the time is not far distant when progressive bee-keepers will be found practising autumn expansion as an important aid to success in honey-production. Several have reported favourably on wintering with a stored shallow super over the usual brood-box. If attended to immediately honey-gathering is over, this desirable condition is easily secured by giving combs dripping from the extractor, with feeder above and all closely wrapped up. Feed rapidly; then leave quite alone until May, and compare with those you were most attentive to in spring.

Pickering Honey.—I have been favoured with a sample of this delicacy, which, if fairly representing the bulk, puts me in the position of having grossly maligned the vendors thereof. So far from being sold too cheaply, it is quite the other way about, and, judged by the usual standards, the Pickering product is more suitable as food for bees than for human beings. To make up for possible lack of body, there were plenty of bodies, or parts thereof; gossamer wings, the feet, if not the footprints, of the creators or gatherers, while, after summoning up the necessary courage to taste the stuff, it was evident that pollen was the predominant flavouring agent. In fact, the concoction recalled the worst days of the brimstone period, when it was the rule rather than the exception for honey to be with bees, larvæ, and pollen blended. It is to be hoped that our Pickering friends will see fit to mend their ways, and hereafter seek success in marketing less by lowering the price than by raising the quality of their honey. If stored by the bees in clean, pollen-free combs, and the bee-keeper does his share of the work efficiently, there should be a marked improvement as regards quality and prices, even although the Scotch standard might not be reached in either respect.—J. M. Ellis, Ussie Valley, March 21.

THE SALE OF HONEY.

HELPING BROTHER BEE-KEEPERS.

[6661.] Though, taking the market as a whole, there appears to be a supply in advance of the demand, it sometimes happens that an individual bee-keeper has more orders than he can fill, especially if he limits the amount produced to his regular requirements. In such a case a bee-keeper should, in my opinion, pass on the order to some congested brother, giving his nearer neighbours the first option, and if they cannot supply, then sending the order to an advertiser in the B.B.J. This course I follow myself. I have just had an inquiry for *English* honey from my most valued customers. They are very particular about the quality, and evidently cheap foreign rubbish has no attractions for them, though they are a business-like firm. In this instance I sent them the names and addresses of three persons culled from the current issue of the B.B.J., selecting only those whose prices were not less than 56s. per cwt., which is the lowest honest price for good English honey. I have done this in former years, but my customers are honourable men, and never give new orders without first seeing if I can supply. I lose nothing by giving other bee-keepers a chance, and I never recommend any but reliable bee-keepers who offer at a "live and let live" price. Some one of your advertisers will therefore benefit: which, I cannot say, as I leave the firm to select for themselves. I think this plan is one which ought to be followed generally. I never make any profit myself on such recommendations. I advise bee-keepers most strongly to stand out for a minimum price of 6d. per pound for extracted honey in bulk. I have not lost by letting orders pass by at a lower figure. I have indignantly refused offers of 50s. a hundredweight from grasping firms. If others did so, we should all do better. Let us be business-like. We must do as other business people do—keep our own secrets where desirable, and not allow ourselves to be sweated. I see honey advertised at 72s. a gross bottled. This is indeed a deplorably low figure, and certainly does not pay for the great labour involved and the risks incurred. The law as regards the marking of foreign goods should be enforced in the case of honey.—W. J. Farmer, Cornwall.

P.S.—It would not be reprehensible to supply a honey merchant at 50s. per hundredweight who only sells to shopkeepers and not direct to the public; but no shopkeeper should have it at a penny less than 56s. unbottled and 8s. 6d. a dozen bottled.

RETURNS FROM SWARMS.

DISTANCE OF BEE-FLIGHT.

[6662.] I cannot help thinking how well your correspondent J. Huxley (6647, page 103) has hit the right nail on the head with regard to yield of swarms. His experience exactly agrees with my own and that of most others (except in heather-producing districts). I say this because if it were usual to secure even forty sections off an average swarm everyone would buy swarms. Seeing also that the value of the sections would more than pay for the swarm, and leave him a stock gratis at the end of the summer, this would indeed be a very profitable way of commencing bee-keeping. With regard to the distance bees fly, I am of opinion that they do not collect much surplus honey over one mile from their hive; indeed, I might venture to say half a mile is nearer the mark.

In support of this belief I may mention that in the year 1893 I looked after four stocks of bees for a friend, and they yielded him an average of sixty-three 1-lb. sections each. My own hives, located in the hills above, only returned me an average of 18 lb. per hive. This was a very droughty summer, the clover and sainfoin being quickly burnt up on the hills, whereas my friend's bees were located in a valley which had a brook running down the centre, on either side of which were cool meadows, flowering more or less all the summer. As his bees were certainly not more than 1½ miles in a straight line from my hives, this would seem to show that an apiary should only be located close to its honey-supply, and that one mile makes all the difference between profit and loss. In a back number of the B.B.J. I notice that "A. H., Wavendon," mentions that when bee-driving he always drives his bees direct on to combs. Would he kindly explain how he does this, because it seems to me that when one travels a distance to drive perhaps six stocks of bees it would be necessary to take a cart-load of boxes or hives of combs? I usually drive bees into skeps, and then shake them into small boxes, which when tied together travel in very small compass. But I should be quite willing to improve upon this system if any advantage belongs to it.—EXPERT, Cheltenham, March 23.

HAMPSHIRE NOTES.

[6663.] The first day of spring, and we are having a grand opening for the season here. Yet it is years since I remember seeing so little pollen being gathered during March; on the whole, however, stocks have come through well both as regards numbers and stores. Moderately severe winters are no doubt best from a bee-keeper's standpoint. There is less wear and tear on the bees, and consequently less mortality, which means more bees to give the colony the necessary start in spring. I noticed drones flying in numbers from one hive, which led me to examine it; but nothing was revealed worse than a good strong colony with plenty of worker-brood and eggs. It is strange, but this same colony had drones flying early in March last year, and I was fortunate in getting a young queen mated by them, though possibly that queen left the hive a hundred times without meeting the drones. This is only a rough estimate, arrived at from the number of bright days we had from the time she hatched to the time of her mating, and from the fact that on two of those days I watched her leave the hive and return again about once in every five minutes for over half an hour, making on each day seven flights in thirty-five minutes. How long this going and coming continued during the day I cannot say, as I was unable to watch for the last flight of either day. However, the queen was at last mated, and is now the mother of a good colony.

Writing of queens reminds me of another incident of last spring. I noticed something wrong at one of my hives, and an examination revealed the fact that the queen had by some means got through the excluder, which had been left in position all winter below a crate of shallow-frames. I do not generally use queen-excluder below supers, and wish I had not done so here; but it had been previously put on for experimental purposes, and so I did not trouble to remove it when fixing up super for summer work. The honey was extracted in September and the wet combs replaced over the excluder with not an egg or particle of brood in them. The problems presented to my mind were:—1. How could a queen possibly get into the super above the excluder unless she was hatched there? 2. How could she be hatched there without brood or eggs? I ought perhaps to have mentioned that she had not been mated, and was consequently a drone-breeder, and the drones hatched from her eggs had, of course, not been able to pass down through the excluder, with the result that there were hundreds of dead drones there. After thinking the matter over, I came to the conclusion that this queen had been hatched late in the autumn, and, while comparatively small, as just-hatched queens usually are, had passed into the super through the excluder. In a few days she would have increased in size, when the excluder became a trap to her and all her drone progeny later on. It is also well to mention, for the benefit of the inexperienced,

that extreme care should always be taken when overhauling all weak colonies at this time of year, especially those with young queens; because very little jarring of combs is sometimes sufficient to cause the queen and bees to leave the hive, and after flying round in the air seek admittance to other hives, with of course fatal results so far as that particular lot is concerned. When it is absolutely necessary to examine a hive, it is safest to lightly spray the combs with very thin syrup, and use little or no smoke.

The question is being asked in your columns, "Will bee-keeping cease to pay?" Before replying, we should inquire, "Where do you mean, in Scotland or England?" Then would come from all querists, "Why, England, of course! Scotland is all right." And in confirmation of this read Messrs. Andrew Muir and Son's "notes" in January *Record*; also Mr. J. M. Ellis in B.B.J. of March 7 (6640, page 93). He jocosely invites us to cross the Border and be welcome! May we all come? The very idea of clover sections with a settled-down price of 9d. each wholesale, and a bad season yielding close on three tons from sixty-nine stocks, while in a good season the total yield will be 4,000 lb. from thirty stocks—it's enough to make our mouths water on this side. No, bee-keeping will never cease to pay in Scotland—possibly the millennium has already commenced there.—OWEN BROWNING, Kingsomborne, March 23.

WILL BEE-KEEPING CEASE TO PAY?

RISKS OF OVER-PRODUCTION.

[6664.] I should like to ask:—Do we not make a mistake in doing all we can to increase the number of bee-keepers nowadays, as so many of us are doing? Old hands like myself are apt to be enthusiastic with regard to the craft, and have felt that it was only neighbourly to help others and to spread the knowledge of bees and bee-keeping, which has given us so much profitable and pleasant occupation. But, after all, this is not "business," and I begin to feel that it should be indulged in cautiously. For my own part, I have rendered a great deal of free help and given information freely to beginners, and have in this way raised competition, which may do me not a little personal harm in the future. The number of stocks which can be profitably kept in any one district is limited, and so also is the demand for honey, and it seems as if we are in danger of over-production, which will compel us to offer our produce at prices which will not pay us for our expenditure and time. I send name, and sign—A BEE-KEEPER, Cambs., March 23.

PREVENTION OF SWARMING.

A LADY BEGINNER'S EXPERIENCE.

[6665.] Having read several times, both in the BRITISH BEE JOURNAL and the *Record* (to which magazines I regularly subscribe), of amateur bee-keepers' troubles about swarming, I am writing as a beginner myself to tell them what I have proved to be the best things to do with bees that have the swarming mania. I started last year with four stocks, and from them had nine swarms altogether, counting casts. I hived three, but not wishing to increase my apiary more, I sold two swarms, and returned four to the parent stocks. I have taken great care to try to prevent their swarming by giving plenty of room in advance, free ventilation, and removing queen-cells continually. The following plan of dealing with excessive swarming was suggested to me by a fellow-apiarist to whom I had recourse. I provide a box the top of which is covered with queen-excluder. Shake your swarm into the box, and later in the day drive the bees out through the excluder. You will have a few drones and your queen only left. The latter, if old, you can destroy, or if she is with a cast or virgin swarm she can be used for restocking one of your hives. This, I know, is a very amateurish way of doing things, and yet to a beginner who finds it next to impossible to distinguish the queen if the swarm is just thrown down in front of the parent stock and returned in that way to the hive, I think this suggestion may be of value as a help. I have felt sorry for other lady bee-keepers, as I myself have suffered very much through stings when removing queen-cells. Not only so, but after persevering with the preventive my bees still continued to swarm.—W. M., Dorset.

BEE-KEEPING AND TEMPERANCE.

[6666.] Although I feel you will object to your columns being occupied with a temperance debate, I shall be obliged if you will allow me space for a line of reply to Mr. D. G. Taylor's question in B.B.J. of March 21 (6656, page 114), as he presumes to be voicing a "vast army" of non-abstaining bee-men. He must have special reasons for writing, or he would surely not stir up the question he has raised, which, in his own words, is "altogether foreign to the subject in hand." My reply to his question is simply "No!" I merely used the phrase in order to impress the need of a steady hand and keen sight. If Mr. Taylor has these attributes, I say to him "Be thankful," and forget not that many of the millions of non-teetotalers he speaks of have been restrained from alcoholic excesses directly or indirectly by the influence of the tem-

perance cause. Really, I begrudge the time to reply to a reader who endeavours to publicly stumble over the meaning of such common expressions, and assumes such absurd conclusions in reference to advocates of teetotalism. I suggest that the bee-keeping industry would be better served by questions put to apiarists in reference to bee management, &c., than by picking holes in a few friendly "notes" given in reply to our Editors' request for same.—W. G. ARCHER, Oxford. March 23.

[We trust that our correspondents—good fellows both, no doubt—will allow their little "tiff" to begin and end with what has now been said, being quite sure that no unworthy motives lay behind the remarks made on either side.—EDS.]

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS

By D. M. Macdonald, Banff.

Snow-covered Hives.—The Michigan Convention was unanimous in agreeing that it was not necessary to remove snow from hive-entrances, as the heat of the bees would melt away the snow and thus secure a sufficient supply of fresh air. Some of the members advised the use of a "portico" with a narrow entrance, while the real entrance was left open full width. I advocated something on these lines in the February *Record*, and in the March issue appeared an illustration of the "Silver" entrance designed for the same purpose. Any device to hinder spring dwindling would be a great boon. On the question of snow-covered hives I hold that when thus enveloped the covering serves as a blanket, conserving the heat. A sheep was buried in a snow-wreath during the late storm, and survived nine weeks thus wrapped up.

Safe Wintering.—Two bee-"doctors" in the *American Bee-keeper* hold diametrically opposed ideas on the subject. Mr. F. Greiner says:—"We cannot as yet bring our bees through the winter with that degree of certainty and uniformity that is possible with sheep, horses, cattle, and domestic fowls"; while Mr. Allen Latham holds that "the bee-keeper who has not solved the wintering problem to the extent that he can winter his bees as well as he can his cows has much yet to learn." If the latter opinion is the true one, I must number myself with those—I fear, the great majority—who have much yet to learn, as I invariably fail to pull through the full complement of stocks which I have winter-packed.

Spiders Eating Bees.—"Before the season was half over, only those colonies which happened to breed heavily right up to the flow continued to gather much surplus. Hundreds of thousands of my bees fell victims to those voracious spiders, and they cost me hundreds, possibly thousands, of pounds of surplus. I am seriously considering hiring boys to go out on the war-path against these spiders." (Mr. A. Latham.) We in this country have reason to be thankful that we are safe from these and many other enemies, such as ants, bears, men, floods. More bees, however, fall a prey to birds than bee-keepers are at all aware of. To prove this just keep your eyes open!

Giants in Beedom.—From recent information we find that some ten bee-keepers in America possess 1,000 hives or over. They are as follows:—

		Colonies.
1.	M. H. Mendelson, California...	1,700
2.	J. H. Flory, California	1,600
3.	Willie Atchley, Texas	1,600
4.	Bert Hopper, Colorado	1,500
5.	L. E. Mercer, California	1,500
6.	W. H. Laws, Texas	1,300
7.	R. M. Spencer, California	1,200
8.	C. B. Howard, New York	1,000
9.	M. A. Gill, Colorado	1,000
10.	J. F. Macintyre, California ...	1,000

Giving a general average of 1,340 colonies.

Many others all but attain to this high-water mark.

Bee Profits.—At times we hear "grumbles" that bees do not pay. Here are some *low* averages. Mr. Alexander says:—"About five dollars per colony, spring count, clear of all expenses, is a moderate estimate of the profit from the business." Mr. W. L. Coggshall, one of the most extensive bee-keepers in the world, estimates he would be "well satisfied with an average profit of two dollars." Mr. Root in his "A B C" estimates that "in a locality not overstocked the annual income per colony clear of expenses will be three and a half dollars." We in this country generally count on a very much higher profit; yet I am by no means certain but that anything from 10s. to 20s. would be very near the mark in taking, say, the average yield of a whole county over a series of years. Even thus bee-keeping pays.

One or two rather slighting observations have been made lately of those who "boast" about their big prices, and an attempt has been made to reason it out that this would have a tendency towards reduction. I do not see how this logically follows. As one of those who recorded prices, I may say that my intention was quite the opposite of this. If I can get a given price in the centre of England, purchaser paying carriage, why should bee-keepers living in that centre sell at three or four pence less per pound? Properly gone about, their sales should equal mine, and recording my price should

be an inducement to them to work for the higher profit-giving price.

Scholliana.—I have noted some terse, pointed, and very expressive sentences from Mr. Scholl's articles well worth reproducing. Here are a few:—

There are bee-keepers who keep bees, and then there are real bee-keepers.

Scrub bees, scrub bee-keeping, and scrub bee-keepers are usually found at the same place.

Increased yields must come from better management, if the strain of bees is good. If not, a good strain must be secured.

Believers in patent medicines should get out into the apiary.

Watch the weaklings!

Pinch the heads of worthless queens.

Jot down all important items. It pays.

What not to do is often as important as what to do in the apiary.

Good stock is essential to good honey-takes, and is cheap at any price.

One good queen is worth half a dozen ordinary ones; so get good queens.

"*Positive*" *Information.* — "The trouble is that ninety-nine out of every hundred who enter into bee-keeping are not positive enough in their methods. The novice is apt to think that a colony has a good queen, that it has enough honey for winter, that its combs are good enough. The trouble is they do not *know*. And that is why so many hives are piled up in fence corners and old buildings all over the land." This is G. M. Doolittle's opinion, and facts bear out the truth of the assertion on this side. A Canadian the other day euphoniously described it as "fool's luck."

Queries and Replies.

[3492.] *Re-queening Nucleus Hives.*—I will be much obliged if you will answer the three following questions in the B.B.J.:—1. Will bees in a nucleus hive, if they have been queenless and broodless for twenty-four hours, receive and tend carefully and not destroy an unsealed queen-cell? 2. Supposing a stock to swarm, and that the swarm is returned to the old stand, but given a new brood-box with nine empty combs, and one comb of brood and eggs, an excluder zinc being put on top of these, and the old brood-box and brood-combs placed above it. This being done, we will suppose that the queen-cells left on these brood-combs are wanted for nuclei, but the latter will not be ready for the queen-cells for twenty-four hours. What I want to know is whether the queen-cells can be kept safely for this time by being cut out carefully, and then put into protectors or nursery cages and hung for warmth between the brood-combs of the upper box. Can this be done without any harm to the queen-cells or an unsettling effect upon the swarm? 3. If some of the queen-cells were not completely sealed, would the future queens in these be damaged from the effects of not allowing the bees to go on with the closing up of these cells while they were in the nursery-cages? I want to re-queen several hives this year, and am afraid of the possibility of the nuclei and the queen-cells not being ready simultaneously; therefore these questions. I send name for reference, and sign—GRIP, Aberdeenshire, March 20.

REPLY.—1. Do not try giving unsealed cells. Let them be sealed over before removal, if you wish to be successful. 2. Your proposed plan is almost sure to unsettle the swarm. It is against rule, and we cannot recommend it. Leave the queen-cells in the parent stock on the brood-combs, and utilise them in the orthodox way according to directions in "Guide Book." 3. This question is already answered.

Bee Show to Come.

May 28 to 31, at Maidenhead (Berkshire B.K.A.).—Show of Honey in connection with the Annual Exhibition of the Royal Counties Agricultural Society. Over £20 in prizes. Schedules from D. W. Bishop-Ackerman, Hon. Sec. Berks. B.K.A., 161, King's-road, Reading. **Entries close May 1.**

Notices to Correspondents.

*** Our attention having been called to a clerical error in the few lines of introduction to "Homes of the Honey-Bee" (page 114), we beg to say Mr. Pidduck is expert to the Cheshire B.K.A., *not* Lancashire, Mr. J. Gray being engaged as expert by the last-named B.K.A.

H. A. M. (Norwich).—*Watering-troughs for Bees.*—Any shallow vessel large enough to hold a couple of quarts or more of water will answer the purpose. It only needs to improvise a foothold for the bees to save them from getting drowned while drinking. Some use cut corks; others prefer to fill up the trough with pebbles. A good many bee-keepers simply provide a dish of spent tea-leaves—kept moist—for the purpose.

(MRS.) E. M. (St. Asaph).—*Getting Rid of Superfluous Drones.*—1. The reply on page 117 last week, to which you refer, is, no doubt, applicable to your case. To get over the difficulty of substituting worker foundation for the drone-comb to be removed, use a very thin lath, cut to fit tightly between the sides of the frame, and attach a strip of foundation (cut to the requisite size) to the lath by molten wax. When pushed into posi-

tion, close up to the edge of the comb, where it will permanently remain. The bees will build out the comb with worker-cells. 2. You need not remove the sealed honey at all.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, Sittings of Eggs, from First-class Laying Strains of Indian Game, 3s. 9d. doz., 6s. 9d. 2 doz.; White Wyandotte, 3s. 3d. doz., 5s. 9d. 2 doz.; Partridge Wyandotte, 2s. 9d. doz., 4s. 6d. 2 doz.; a few Pullets, at 6s. each, all laying. Unfertile eggs replaced. Carriage paid on 2 sittings.—MITCHAM, Newfound, Cringleford, Norwich. x 44

THREE Strong Stocks Bees, Young Queens, Standard Frame, new last year, guaranteed healthy, 25s. each.—W. TILDESLEY, Meaford Crossing, Stone, Staffs. x 39

WANTED, a few Stocks of Bees; must be cheap.—NELMES, 6, Castle-terrace, Cathcart, Glasgow. x 29

FOR SALE, 25 Shallow Frame Boxes, with Frames, 1s. each.—BENNETT, Heacham, Norfolk. x 43

EXPERT requires Gentlemanly Youth as Pupil in large Apiary; no premium if help given; board, 25s. per week.—E. E., care of "Bee Journal." x 42

FOR SALE, 36 Section Racks, complete, 1s. 6d. each; 14 Swarm Catchers, 1s. 9d.; 6 doz. wide-drawn-out Super Frames, 5s. doz.—GARDNER, Methwold, Norfolk. x 37

TWO old Bee Books, "The General Apiarian," by I. Isaac, Secretary to the First Society, 1799, and "The Honey Bee," by Dr. Bevan, 1838. What offers?—J. T., "Ercildoune," Lyveden-road, Tooting Graveney, S.W. x 36

WANTED, Good Swarms of Bees, in exchange. —Particulars, &c., JOHN T. GREGORY, Hathersage, Derbyshire. x 35

STRAW SKEPS of Bees for Sale, 10s. 6d. each.—J. WAYMAN, Cottenham, Cambridge. x 32

WANTED, Strong Early Swarm; exchange pedigree Cocker dog puppy, or Fox Terrier. —EXPERT, Sherfield, Basingstoke. x 28

CASE of 2 in. A. I. Root's No. 1 4-way Sections (1,000) for sale, to clear, 16s.—L. GOFFIN, Wakes Colne, Essex. x 26

FIVE Splendid STOCKS of BEES for sale, on eight frames. Cheap, owing to removal.—BOWDEN, Castle-road, Salisbury. x 25

SEVERAL HEALTHY STOCKS OF BEES for sale, some natives, some hybrids. Can be seen by arrangement at week ends.—PFLEIDERER, Rhinefall, Penrith-road, New Malden, Surrey. x 27

EXTRACTOR WANTED, good small second-hand one, cheap.—JAMES BANWELL, Malvern Wells. x 30

MUST CLEAR, giving up Bees.—2 "W.B.C." Hives, by Howard, Peterborough; 2 Cottagers' Hives; 2 "W.B.C." Hives, home made; 11 doz. ½ lb. screw top Honey Jars, with caps and wads; 7 doz. 1 lb., without caps or wads; 3 doz. Shallow Frames, new; 3 Bee Escapes, 1 Honey Extractor, as good as new; 4 Queen Excluders; Neighbour's Syrup Feeder; 9 lb. pure Beeswax. Offers invited for whole or part.—G. DENTON, Antree Nursery, Parchmore-road, Thornton Heath. x 31

37 COLONIES OF BEES, mostly of William Woodley's noted strain, healthy, in bar-frame Hives. Owner, having notice to remove them from parish council allotments, offers same for immediate disposal. May be seen by appointment.—Apply to FRANK BARBER, Ferry View, Bourne End, Bucks. x 33

Special Prepaid Advertisements.—*Continued.*

EGGS FOR HATCHING, from finest pens of utility birds: Black Minorcas, Brown Leghorns, White Leghorns, 2s. 6d. sitting, unfertiles replaced.—HARRISON, Bee Farm, Middleton, Pickering. x 41

FOR SALE, the following well-made Frame Hives: 1 "Wells," 5 "W.B.C." pattern, 3 Single-walled, with Strong Stocks of Bees, all requeened last year, and guaranteed healthy; hives have outer lifts for 2 racks shallow frames or sections, £12 lot, or nearest offer, or will sell separately.—SNOWDEN, Bee Expert, Epworth. x 40

HIVES at right prices: Cottagers', with frames and sections, 8s. 6d.; "W.B.C." a speciality, with frames and sections, and all painted, 15s.—RANSOME, Hellingly, Sussex. x 34

FOR SALE, 12 vols. (1895-1906) "Bee Journal," unbound. What offers?—DAVIS, 14, Church-street, Fisherton, Salisbury. x 38

"NEVER SWARM" SYSTEM, twelve years' absolute success and double surplus, free, 3½d.; Spring Feeders, "The Best," refilled without removal, 1s. 6d.; 12, 16s., free.—HARRIS, Wavendon, Bletchley, Bucks x 24

GUARANTEED HEALTHY, "Never Swarm" Queens, of 1906, in travelling and introducing cages, 7s. 6d.; Five-Frame Nuclei, Brood Stores, and Queens of 1906, 15s. — HARRIS, Wavendon, Bletchley, Bucks. x 23

SIX STRONG, HEALTHY STOCKS, with young Queens, plenty of stores, 25s. each; Honey Extractor, with cover, 16s. 6d.; smaller one, 14s. 6d. —BOWMAN, Bee Expert, Workington. x 12

FOUNDATION STRETCHING stopped by simple device, better than wiring, costs no more after first, every cell free for breeding, successful where tried; set for one frame, 1s. 1d. P.O.; no more odd samples, make for your own use, but dealers keep off, patent applied for.—W. PALMER, 174, Curzon-street, Netherfield, Nottingham. x 22

EXCHANGE "Gardeners' Chronicle" from 12th March, 1903, to 16th Oct., 1906, clean, with Supplements, for "Bee Journals" before 1892. —Address, L. GOFFIN, Wakes Colne, Essex. x 21

PURE ENGLISH GRANULATED HONEY, 14s. per 28 lb. tin; sample, 2d.—GEORGE WEBB, Berghers Hill, Wooburn Green, Bucks. x 14

FROM the Apiary of the late John Stone.—30 healthy Stocks of Bees for sale, guaranteed free from foul brood, all young queens, £1 each, on eight Standard Frames, in travelling box; full apiary, consisting of forty-eight Stocks. — Apply, JOHN STONE, Little Cubley, Sudbury, Derby. x 11

HEALTHY Stocks, in Bar Frame Hives, 20s. to 25s.; on Frames, 3s. per frame; also White Wyandotte Eggs, for sitting, 3s. doz.—HEMMING BROS., Standlake, Witney. x 13

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

LIGHT GRANULATED HONEY, 1-lb. screw-cap jars, 8s. 6d. dozen; bulk, 56s. cwt.—CHARTER, Tattingstone, Ipswich. w 86

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw cap jars, 7s. doz., 77s. gross; ½ lb. ditto, 4s. 6d. doz., 45s. gross; 14 oz. ditto, 6s. 6d. doz., 72s. gross; Honey in bulk, 48s. cwt.; pure breed sitting eggs, 4s., guaranteed.—TURNER BROS., Sandpit Poultry Farm, Croydon. w 65

LIGHT-COLOURED HONEY, in bulk, 54s. per cwt.; 1 lb. screw jars, 8s. per doz.; sample, 2d.; in quantities to suit purchasers.—Apply, HON. SEC., Lincs B.K.A., Tothill, Alford. w 72

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

(*Continued from page 124.*)

CONVERSAZIONE.

At 5.30 p.m., after light refreshments had been served, the members and friends reassembled in Conversazione, when Mr. T. W. Cowan again presided, and, in opening the proceedings, said that at the annual meeting held earlier in the day they had had the pleasure of electing the Worshipful Master of the Wax Chandlers' Company to the position of president of their Association. Unfortunately their new president was unable to be with them on the occasion of his election, but they were honoured by the company of the Rev. J. R. Dummelow and Mr. Bridgwater, prominent members of that ancient Guild. He (the chairman) felt he was only voicing the feelings of everyone present in saying that they all hoped to see those gentlemen at many of their future meetings. They also trusted that the link between the Association and the Company would be strong and lasting. (Cheers.)

There were several subjects to be brought before the assembly that night; but before they proceeded with the papers on the agenda to be read and discussed, he would ask Mr. Till to mention the steps he had taken in conjunction with Mr. Schofield for the purpose of resuscitating the Kent County Association. These gentlemen prepared a map on a large scale showing the locations in each district occupied by bee-keepers in the county, and had brought copies of the map, with other particulars, which would be handed round for inspection. From this it appeared there were a very large number of apiculturists in Kent—indeed, the names of 3,000 had been obtained. This represented a great deal of work, and from the results so far there appeared a good prospect of reviving interest formerly taken in the Kent Bee-keepers' Association.

Mr. Till was much obliged for being allowed the opportunity of showing the map, and of explaining what had been done in regard to the matter. Mr. Schofield, in spite of business calls, had laboured indefatigably in the preparation of the map and census, and the members had the advantage of his presence that evening. For two years they had been endeavouring to make a start, and he (Mr. Till) thought the best basis would be a census. Mr. Schofield sent out notices to all the schoolmasters in Kent, who with the aid of their scholars were enabled to furnish the names of all bee-keepers in their respective areas; and, having secured this most useful information, it was decided to make a start as soon as possible. At the last meeting of the B.B.K.A. (held a month ago), Mr. Schofield brought before the Council his ingenious method of showing the distribution of the bee-industry in Kent. It had been sprung upon him (Mr. Till) with surprise and great pleasure. As would be seen, the method not only explained itself, but was admirably adapted for the compilation of a census of agricultural products and animals, and even bipeds. One could see at a glance the proportion of pigs, or crops, or anything else, and readily compare one district with another. He should advocate the map being used in connection with poultry-keeping.

It had been decided to hold a meeting in the Eynsford Drill Hall on April 6, and between now and that date they would issue invitations to schoolmasters and bee-keepers, and endeavour to interest the whole county in the matter, with the result, he hoped, of resuscitating the bee-keeping organisation of Kent on a sound basis—in other words, by decentralisation and by arranging for the appointment of a local secretary for each district. He would now ask Mr. Schofield to explain what he had left unsaid.

Mr. Schofield thought it would be the best policy to form district associations throughout the county. One of these had already been started at Erith, while another was in process of formation at Ashford, on behalf of which latter he had supplied the names of bee-keepers within a five-mile radius thereof. The local associations would, of course, be in affiliation with the county association, and they should work on a business foundation. Every bee-keeper should be able to get 5s. worth of service in some form or other if he paid his subscription. He would not worry them with any tabulated details, which were all to be seen in the map, from which it was surprising to find how evenly distributed the bee-keepers were throughout Kent.

Mr. Sander said they were very much indebted to Mr. Till and Mr. Schofield for having taken so much trouble, and thereby affording a reasonable hope of the regeneration of the Kent County Association. He trusted there would be a good muster at the meeting on April 6.

General Sir Stanley Edwardes hoped the meeting at Eynsford would be fixed for an early hour, as it would take a long time for distant visitors to get there and back the same day. He (the speaker) would have a cross-country journey, as Eynsford was on a branch line.

Mr. Till was endeavouring to arrange for rail tickets at a reduced rate, and after some discussion with regard to the hour of meeting Mr. Till replied that they

would endeavour to suit the majority of visitors.

The Chairman said they were all very pleased to know what was being done in Kent. He might say that in Switzerland they worked in the same way, and took pleasure in compiling statistics. From their report for 1906 it appeared there were thirty-eight bee-associations; that meant thirty-eight sets of zealous bee-keepers, who took observations of temperature every day, morning and evening, also the barometric pressure, the in-gathering and composition of the honey, and, in fact, all sorts of statistics, which at the end of the year were summarised by the president and published in a report. They also had a map something like that now on the table, showing the honey collected, dots graduated in size indicating the various quantities, large or small. Another sheet showed the amount of honey collected each day, and the daily consumption of food by the bees, taking an average of ten days. There were also other calculations made; and all this was done in a country whose population was not half that of London. The Swiss bee-keepers received a very small subsidy from Government, and whatever cost was incurred over and above that sum was defrayed by the members themselves. Then at the end of the year they totalled up, and if there was any surplus it was divided among themselves *pro rata*. Thus each one paid his quota to the expenses.

He was glad that the incipient Kent Association was going systematically to work in the same way, and he hoped in the course of a few years for encouraging results. He was sure the assembly desired to thank Messrs. Till and Schofield for what they had done in the cause.

After a few remarks by Mr. Andrews and Mr. L. S. Crawshaw, the Chairman read his paper, entitled

BROOD DISEASES OF BEES.

Everything that bears on the subject of brood-diseases must be of interest, seeing that so much of success in bee-keeping depends upon having healthy colonies. We must, however, admit the fact that, although much knowledge has been gained, we have by no means succeeded in eradicating or even preventing foul brood.

Up to the last year or two it was supposed in this country that foul brood was the only serious disease that bees were subject to, and it has been generally admitted that there were two forms of it, namely, a mild and a virulent one; but quite recently another disease, very similar to foul brood, but easily distinguished from it, has made its appearance. This disease has been called in America "black brood," and was first noticed in New York State some eight or nine years ago. My first acquaintance with it was made some years ago in California, when Mr. West, New York State Bee Inspector, sent me a specimen, and on examining it I at once saw that it differed from what we knew as foul brood, for, although the outward appearance of the comb was similar, the distinctive ropiness and odour so characteristic of foul brood were absent.

It has always been understood that foul brood was the same in all countries, and generally attributed to a bacterium, first recognised as a bacillus by Dr. Cohn, to which the name of *Bacillus alvei* was given by Cheshire and Cheyne, who in 1885 made a scientific investigation of the disease. Since then many investigators have found the same bacillus, and from time to time various new bacteria have been discovered, to which has been attributed the cause of the disease.

In August last my attention was arrested by a report in the *American Bee Journal* of an interesting paper, read at the annual convention of the National Bee-keepers' Association at Chicago in December, 1905, on "Experimental Apiculture," and I was surprised to find it stated by Dr. Phillips that *Bacillus alvei* had been found in every case of black brood, and not in a single case of foul brood. Since then two pamphlets have appeared which would have been dealt with in an ordinary Press notice but for the importance attached to them in being issued by, and with the authority of, the United States Department of Agriculture. These pamphlets are distributed with the laudable object of avoiding confusion with respect to the nomenclature of diseases which exists at present, but it appears to me that adding fresh names to those already in use only augments the difficulty.

Dr. Phillips in his pamphlet gives a description of both foul brood and black brood, but what astonished me was his assertion that what was known as foul brood in America was not the same as the disease known in Europe by that name, but that the latter was "black brood."

After consultation with some of the leading bee-keepers of the United States in order to distinguish between the two, it was decided to call the one "American foul brood" and the other "European foul brood."

To my mind this was a mistake, because, from the scientific investigation of Dr. White, it is not at all certain that the conclusions arrived at are correct. The paper entitled "Bacteria of the Apiary," by Dr. White, was reviewed in the B.B.J. for January 31 last. In it he states that in every case of black brood (or "Euro-

pean foul brood," as he calls it) *Bacillus alvei* was found, but that this bacillus was absent in American foul brood. It is rather remarkable that our foul brood should possess the characteristic ropiness and odour of American foul brood, and yet, according to Dr. White, *Bacillus alvei* is never present in what he calls American foul brood, but is always found in black brood, the latter being a disease entirely unknown in this country when Cheshire and Cheyne made their investigations.

If Dr. White's work is carefully examined it will at once be noticed that the description of what he calls *Bacillus alvei* differs from that of Cheyne, Harrison, and others, so that it is open to doubt if he has really been working with this bacillus, and not with one very similar to it. Here are some of the morphological differences. Dr. White states that "the few flagella are arranged peritrichic," but we know that *Bacillus alvei* has only a single flagellum at one pole. Another characteristic of the bacillus is the way the spores arrange themselves in lines side by side, and also the leptothrix forms, neither of which are alluded to by Dr. White, and, from their peculiarity, would have been mentioned if observed. Then the behaviour in the different cultural media varies somewhat, and in none of the cultures was the characteristic odour, described by Dr. Cheyne, found by Dr. White, while the peculiar budding of the rods is not mentioned at all. It is quite possible that what the latter has mistaken for *Bacillus alvei* is a variety or altogether another species. In view of the difficulty of diagnosing some bacteria such a mistake might easily occur. As an instance of this I would mention that the ablest bacteriologists find it very difficult to differentiate between *Bacillus coli communis* and *Bacillus typhosus*, both having so many characteristics in common.

Inasmuch as the researches of Harrison and others agree with those of Cheshire and Cheyne, we require stronger evidence than has been adduced before we are prepared to discard *Bacillus alvei* for another. We should not be too dogmatic about anything connected with bacteria, but Dr. White has not yet shown that the bacterium found in American foul brood, which he has named *Bacillus larvæ*, has anything to do with, or produces, the disease.

There is a standard introduced by Dr. Koch, and called his four postulates, by which bacteriologists test their results, and until each of the four has been fulfilled the final conclusion respecting the causal agent in any bacterial disease must be considered *sub judice*. The four postulates are:—

1. The organism must be demonstrated in the circulation or tissues of the diseased animal.

2. The organism thus demonstrated must be cultivated in artificial media outside the body, and successive generations of a pure culture of that organism must be obtained.

3. Such pure cultures must, when introduced into a healthy and susceptible animal, produce the specific disease.

4. The organism must be found and isolated from the circulation of the inoculated animal.

Dr. White has not fulfilled postulates 3 and 4, and has, therefore, failed to prove that his new bacillus is the causal agent of foul brood. Until this has been done the investigations and conclusions he has arrived at are of little value, so far as solving the question is concerned.

Having probably had more opportunities of seeing and studying foul brood in the different countries of Europe, Africa, and America than anyone here present, I must say it has invariably presented the same appearance, with the distinctive ropiness and unmistakable odour.

A casual observer might no doubt mistake black brood for foul brood, but on close inspection the symptoms are sufficiently distinct to be easily recognised. In foul brood if a stick is inserted into a cell containing a decayed larva and then removed, the tracheæ only (which do not decompose) adhere to it, and can be drawn out in a fine thread for several inches before it breaks. Then there is the odour, which is unmistakable, and in bad cases can be perceived some distance from a hive. When the larva dries, it forms a closely adhering brown scale which contains nothing but spores. On the other hand, in black brood the tracheæ decompose also, so that they cannot be drawn out, and the characteristic odour is absent. The chitine, on the contrary, does not entirely disappear as it does in foul brood, but in the scale that remains there are distinct traces of the head, thorax, and abdomen. The specimens in the tubes which I hand round for inspection show clearly the different stages of the disease.

As already said, two forms of foul brood, a mild and a virulent one, have long been known to exist, and two years ago Dr. R. Burri published the result of his researches (vide B.B.J., 1905, page 172), and mentioned the two forms of disease. In that with the characteristic odour of foul brood he found *Bacillus alvei*, and identified it with that described by Cheshire and Cheyne. He also mentions another form which he thinks is

foul brood, but has no odour, so that possibly this is what has been called "black brood," and which appears to have been noticed in Switzerland concurrently with its appearance in this country. Dr. Burri also found in some specimens of foul brood another bacillus very difficult to cultivate, and quite recently Dr. Erne, of Freiburg, described a similar one. Theodor Weippl, who also about the same time published his observations on foul brood, mentions two forms, and he, too, mentions having always found *Bacillus alvei* in that having the ropiness and odour. This view was also corroborated by Dr. Cohn, of Vienna, to whom specimens were submitted.

Recent researches made at Dahlem have disclosed yet another microbe, a *Spirochæte* belonging to an altogether different family of the higher bacteria, but it is not yet determined if it has any connection with the disease.

For the present, therefore, and until more light has been thrown on the subject we must suspend our judgment and be content with distinguishing the two diseases by the hitherto recognised names of "foul brood" and "black brood."

(*Report continued next week.*)

*** The resolution mentioned in third par. (page 123) of last week's issue was proposed by General Sir Stanley Edwardes, *not* Mr. Edwards, as printed.

CONFERENCE OF KENT BEE-KEEPERS.

A CORDIAL INVITATION.

Mr. E. D. Till, who is making an energetic and most praiseworthy effort to re-establish the once prosperous Kent B.K.A., has issued a cordial invitation to Kent bee-keepers couched in the following terms:—

"Mr. E. D. Till invites all bee-keepers of Kent to a conference at Eynsford, in the Drill Hall, on Saturday, April 6, 2.30 p.m., for the purpose of considering the desirability of forming an Association of Kentish Bee-keepers. Mr. Till and Mr. Arthur Schofield have well considered the difficulties, and earnestly appeal to every bee-keeper to attend, in order that the Association may be placed on a strong and business-like foundation. Fare-and-a-quarter return tickets (April 5 to 8), from all Kentish stations, are procurable on forms supplied on application to Mr. E. D. Till (The Priory, Eynsford, Kent), who will endeavour, if early advised, to provide accommodation for the few who will be unable to return the same night. Tea will be provided in the Drill Hall.

"A postcard reply *by return* is particularly desired, reporting any mistake in name or address, and also advising intention or inability to attend, as well as offering any suggestions of use to the Conference."

Subsequent to the above, and while preparing for press, the following note reaches us from Mr. Till:—"In consequence of the schools not being open this week, we have had to post our invitations direct to every bee-keeper whose address appears in the Kent census —skeppist or otherwise. Nearly 3,000 circulars involved. The post-office people delayed despatch of these until Sunday night, owing to postmaster requiring to give notice to St. Martin's-le-Grand (some wretched red-tape regulation). Railway tickets will reach all who apply in time at latest on Friday. A good muster is anticipated, and any help you can give us in the B.B.J. will be welcome."

LEICESTERSHIRE B.K.A.

ANNUAL MEETING.

The twenty-fifth annual meeting of this association was held on March 16 at the Highcross Coffee House, Leicester. In the absence of Mrs. Maurice Levy Miss V. R. Levy presided over a company numbering nearly one hundred members and friends, including representatives from the Notts and Derby B.K.A.s.

The annual report and balance-sheet were presented by the secretary, Mr. J. Waterfield, and it appeared that sixty-nine new members had joined during the year, making the total membership 298 against 259 the previous year. New districts had been opened up in different parts of the county with very satisfactory results. The work of visiting members had been carried out by qualified experts. The balance-sheet showed a total income of £70 1s. 2d., and expenditure £65 17s. 3d., leaving a balance in hand of £4 3s. 11d.

An interesting feature in the proceedings was a presentation by Miss Levy on behalf of the members to Mr. Waterfield of a silver tea and coffee service with tray suitably inscribed on the completion of twelve years' service as secretary; and in the course of her remarks she gave statistics testifying to the value of the work done by him. Mr. Waterfield, in a few appropriate words, thanked the members for their handsome gift. Mr. W. P. Meadows, chairman of the Executive Committee, expressed the regret he was sure would be felt by all at the lamented death of his Grace the Duke of Rutland, who had been president of the association since its formation, and also that of the Baroness Burdett-Coutts, president of the parent society for many years. Mr. Meadows then proposed that they should cordially

invite Mrs. Levy to be president for the ensuing year. He was sure they would have the right lady in the right place. Miss Levy having accepted the office on behalf of her mother, the vice-presidents, with the addition of Miss V. R. Levy, were re-elected, as were also the chairman (Mr. Meadows) and vice-chairman (Mr. J. Edwin Roper). The executive (to be in future termed the "council") were re-elected, with the addition of Messrs. F. A. Greenhough and J. Thompson to fill two vacancies. Messrs. Bedingfield (treasurer), E. J. Underwood (auditor), and J. Waterfield (secretary) were also re-elected.

After the prizes had been distributed the assembly partook of tea, and subsequently lectures were delivered by Mr. Peter Scattergood on "Wax: Its Production, Uses, and Adulteration," and by Mr. Geo. Hayes on "Honey and Honey-taking."—J. WATERFIELD, Secretary.

WARWICKSHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of the Warwickshire Bee-keepers' Association was held on March 21 at the Grand Hotel, Birmingham, under the presidency of the Rev. T. W. Downing, vicar of Knowle. The report recorded the continued progress of the association. There had been a considerable increase in membership during the year, the number now on the roll (over 500) being larger than at any time during the twenty-seven years of the association's existence. The income for the year amounted to £127, and the expenditure (including depreciation, &c.) to £111, leaving a balance in hand of over £15. The committee regretted that the Warwickshire Agricultural Society refused to make a grant to the association for the purpose of assisting in establishing an apiarian exhibition in connection with the County Show. The association, however, had given prizes for honey at various horticultural exhibitions in the county, and this had been much appreciated, and it was hoped that the funds would enable them to hold an exhibition in connection with the County Agricultural Show at Rugby in August next. Demonstrations by the association's expert (Mr. G. Franklin), under the auspices of the Warwickshire County Council, had been given in various parts of the county with satisfactory results. Increased sales of members' honey were shown by the sale of upwards of 5,000 labels. The chairman, in moving the adoption of the report, congratulated the members on the progress that was being made in the county in the culture of bees. Mr. Clarke seconded the resolution, which was carried. Sir P. A. Muntz, M.P., was re-elected president. Several gentlemen were appointed vice-presidents; the committee were elected, and Messrs. A. H. Foster (hon. treasurer), J. N. Bower (hon. secretary), J. R. Ingerthorp (assistant secretary), G. Franklin (expert), and E. Franklin (assistant expert) were re-appointed. At the close of the business Mr. G. Franklin delivered a lecture, illustrated by lantern views, on the life-history and habits of the honey-bee, in the course of which he gave many practical hints to bee-keepers.—J. NOBLE BOWER, Hon. Sec.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

AMONG THE BEES.

POLLEN.

[6667.] The food necessary to maintain life in animate creation may be generally classified as nitrogenous and non-nitrogenous. The first is required for the growth and repair of muscular tissue, and in the case of bees is obtained from the pollen of flowers. This substance is the fertilising powder necessary for the reproduction of seeds of plants. At this season of the year bees begin active breeding, and the growth and development of the young larvæ before sealing depending very largely on this flesh and muscle giving food, bees have to carry in a vast supply in order that the successive hatchings may be brought to full fruition. As in many other admirable provisions of Nature, we find that animate and inanimate creation "work together for good." Just when crocus flower, willow catkin, and elm blossom exhibit a lavish display of this flower-dust, bees develop the need for it, and both are blessed. Nature is very bountiful in her supply of pollen, because in even common flowers there may be thousands of grains. The very shape of these tiny atoms almost seems to lend aid to the insects in carrying them to their hives, as we find they are so formed that they can be easily packed, being studded

over with a number of sharp points or angles, which formation helps to bind the individual grains into a mass. Then there is in the very substance of most kinds of pollen an adhesiveness—especially in the early part of the day, or during moist weather, say after a shower of rain—which gives the many grains a power of becoming one semi-solid mass on the exertion of the gentlest pressure.

It will be noted that bees gather most of this indispensable bee-bread in the early part of the day, their instinct teaching them that it is then collected with a saving of labour. As a rule, although not an inviolable one, bees collecting this farina, while foraging for pollen, visit only one species of flower. Consequently, their loads are of one shade of colour, according to the nature of the flower visited, and it will be found that, in general, cells are filled with one kind. The process of loading-up is a very interesting one, and can be observed on almost any garden flower. The crocus affords an excellent coign of vantage for study. If the blooms are numerous, the process is a short one. More interesting, perhaps, is it to observe a number of bees on a large clump of malva, and the adroit procedure on broom blossom is a study in itself. On both these flowers young bees especially roll themselves in gay abandon over the anthers, and rub up against style and stigma, until they become veritable dusty millers or regular masses of gold. Ancient bee-men, when they saw these young bees coated in yellow-golden dress, representing a fair percentage of the foraging home-comers in late May or early June, fully counted on full colonies sure to be a success.

In the early part of the season, before pollen-bearing flowers are numerous, artificial pollen can be supplied in the form of various kinds of meal, and the process of loading up the pollen-baskets may be leisurely observed in any receptacle used to supply it. An old comb smelling of honey is an excellent bait to attract the bees to this source of supply.

Amongst early sources from which bees obtain pollen may be named crocus, snowdrop (at times), salix or willow, fruit-bloom, dandelion, elm, coltsfoot, wallflower, turnip or cabbage seeding plants, broom, whin or gorse, and many more or less conspicuous, too numerous to mention. Later in the season almost any single flower may yield a supply; but bees have the wisdom to seek for it in flowers which also yield nectar. White clover yields well, so that at the season when it blooms most bees carry from it wholly. While early in the season most bees devote themselves to pollen-carrying alone, later only a small percentage do, especially when the full flow of a heavy honey-boom is on.

Bees, as is well known, are provided with corbiculæ, or pollen-baskets, at the junction of the fourth and fifth segments of the hind leg of the worker. The opening can be closed at the insect's will, and when full a number of lancet-shaped hairs round the margin serve to keep the pellets in position on the journey home. In depositing it in the hive, the insect places the lower part of its body in a cell, and scrapes out the burden with its other legs, pressing it down, so that it can be seen in a succession of layers. As a rule, it is stored in the centre of the comb next to the brood, so that it may be within easy reach of the nurse-bees, and as the brood extends it is found in the height of the season only in the outside combs. While in some parts of the country an overplus of pollen is gathered, so that it becomes a nuisance in the hive, generally bees wisely gauge the true quantity required. When stored late in the season, cells are only partly filled, and the remainder is occupied with honey. Undoubtedly this is a wise provision to preserve the stored pollen for use in early spring, when breeding begins. In fine seasons bees are found working on ground ivy during December, even well up to Christmas. Here rarely, if ever, do I find any pollen carried in after early October, unless when feeding is being carried on or driven bees are being established, and then I often wonder where they can possibly find such quantities. In considering the manner in which pollen is utilised, observation and analysis combine to prove that the nurse-bees "manufacture" a combination of honey and pollen to administer to the larvæ, and this is given to them from the time they are weaned from the use of royal jelly until they are sealed up, on or about the ninth day from the laying of the egg. The marvellous increase in bulk during the last of these days shows what an immense quantity of pollen must be consumed. In certain parts of the country an early supply greatly aids the bees in urgent breeding, and to provide it artificially in the hives feeders are on the market with a space for feeding with nitrogenous substances of various kinds.

Ancient bee-keepers long looked on pollen as crude wax, but this belief, like many more, has been evaporated by the fuller knowledge of later times. The two substances, on being analysed, are found to be quite dissimilar. Although the bulk of the pollen gathered goes to help to "manufacture" young bees, yet adult workers, drones, and even queens, it may be presumed, enjoy the luxury of feeding on this indispensable prop and generator of muscular tissue, as well as honey and other saccharine substances supplying the non-nitrogenous food, thus keeping up the wear and tear attendant on the bee's busy life of assiduous toil.—D. M. M., Banff.

EXTENT OF DRONES' FLIGHT.

A QUESTION FOR LOCAL BEE CLUBS.

[6668.] I am anxious to get information on a point on which the text-books are silent, but which is nevertheless of great importance to queen-breeders, viz., the distance to which the ordinary flight of the drones extends. If, as I believe, no accurate observations on this subject have been made, may I suggest that it would be a very useful and helpful bit of work for village or other bee-clubs to undertake during the coming season? My plan would be first to choose a spot as centrally situated as possible with regard to the rest of the members and set up a stock there having an abundance of drones. Second, on a pre-arranged day trap the drones and dust them well over with some conspicuous but harmless powder; then free them. Third, the club members to keep a look-out for the abnormally-coloured drones, and send a post-card to their secretary stating date, time, and place at which one or more were seen.

By this means, if the plan were tried in half a dozen centres this year, we might be able to report at the October meeting of the B.B.K.A. another forward step in the science of bee-culture.—T. I. WESTON, Hook, Winchfield, March 30.

FOUNDATION FIXING.

[6669.] I was pleased to see, on page 95 of B.B.J. for March 7 a good word for my device for prevention of foundation stretching, and especially as I have not the pleasure of Mr. Fraser's acquaintance. Although "protecting" it, I am only doing so against dealers. I have no objection—even if I had the right—to anyone making for his own use. If not "grinding" my little axe too much, perhaps you will allow me to give particulars of a severe test I put the device to last September, when I placed between 8 lb. and 9 lb. of driven bees on eight frames filled with two sheets each of the thinnest super-foundation, the top sheet fastened to top-bar by melted wax, the bottom one kept in place by device only. After two days, the bees having had plenty of syrup to go at, I found the foundation well fixed and joined, with the exception of an odd corner, built into half-combs, very little stretched, and as full of syrup as the cell-depth would allow. At the end of a fortnight the bees had taken thirty odd pounds of syrup; there were four good slabs of brood, and the rest of combs were nearly solid with food, mostly sealed. It is now a grand stock. I shall not repeat this experiment, though, for the combs were so very tender that even to me it was a ticklish job taking the device off.—NONDESCRIPT, March 11.

MR. SIMMINS ON FOUL BROOD.

[6670.] I do not understand Mr. Simmins to mean that remedies for foul brood are needless; what he lays stress on is the great power of vital force, which in some instances has stopped the disease. We do well to insist on the terrors of foul brood to the novice or the less intelligent, but experts like Mr. Simmins may safely do many things that it would be improper to advise to these. A really expert bee-keeper can always cure his bees and save his combs if he be prompt with his treatment. I rely entirely on spraying; so long as the disease is new it will stop it. It will only succeed fully when we open every closed diseased cell and spray it thoroughly. I agree with Mr. Simmins that the germs are not in the honey, but may be put into it from the combs. In my opinion the germs do not pass in direct from the bee's honey-sac. I cured a stock last season, and saved bees, combs, and honey. After making another diseased stock queenless, the bees of their own accord cleaned out all the diseased cells, which were in this case not numerous, so that I can endorse Mr. Simmins's experience in the same circumstances. Foul brood may cause us extra work, but if we do put in this extra labour it need cause us no material loss. Certainly to attain this end requires very intelligent procedure. Where the operator is inexpert, by all means let him go in for heroic measures, such as driving the bees and melting down the combs. This course may also, in my opinion, be followed where time forbids spraying, &c. Empty store-combs appear to be quite safe after fumigation with formalin. —W. J. FARMER, Cornwall.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Problems (page 112).—Is it useless to indulge in casuistry? Circumstances alter cases, and cases may govern action. I venture to remind "D. M. M." that he is actively concerned in training the young recruit to practise at this miniature range, and that even "hypothetical cases" have a mental-gymnastic value. But do we agree that such inquiry into the future of bee-keeping is valueless? It may once have been right to take no thought for the morrow, but it certainly seems wise in these days to weigh up the probabilities of a declining market before venturing largely, or even extending business. And whilst this problem, like all others, will be self-solving in time, yet it is well that we should so consider it as to prevent our contribution to the result from containing false factors. For, after

all, factors affect business prosperity, and it would be well that they should be honest!

New Use for Bees (page 113).—It is quite possible that 2 deg. might make all the difference between life and death from frost-nip. Granting, however, that the position of the hives effected this (the difference in temperature), it might not necessarily be due to the waste heat. Possibly an empty hive might produce a similar result. Accurate register of further experiment may not warrant such a striking conclusion. But if our bees can be put to such use, let us avail ourselves to the full of their fruitful possibilities. Which of our breeders will produce for us a strain of warm-hearted bees which shall sit overnight in the blossoms until such time as the eggs of the fruit are hatched? It might be well to start by crossing one of those wax-melting lots with some Dorking blood!

Loaded Boats (page 114).—It is worth our consideration whether we bee-keepers are not essentially prone to overload our boats, and Mr. Reid's warning is both sane and shrewd, as one would expect from a Scotsman. I can safely leave "J. M. E." in the hands of his countrymen. The B.B.J. would miss their interesting contributions, and if endeavours to stir the pot are not successful, their suggestions seem to be always sweetly sensible, as in this case, so usually, if I may say so—honey-canny!

Kent Association (page 124).—This conference at Eynsford promises to be a most interesting function. It would indeed be a pity if Mr. Till were to suffer financially through his enthusiasm. The Association is reviving under most favourable auspices, and if this weather continues the inaugural meeting should be a great success. May I hope that this notice will catch the eye of some men of Kent who will turn up to help to prevent the depletion of the "till"!

Sale of Honey (page 125).—How can it be "all right" to sell honey at 50s. to a merchant when "56s. per cwt. is the lowest honest price for good English honey"? The "postscript" to Mr. Farmer's letter appears to over-qualify his contention. Suppose that the merchant is willing to handle the honey for less than an additional 12 per cent., who is to prevent him? This P.S. is not a supporting "post," and is perhaps more than a little "cryptic"!

Queen above Excluder (page 126).—It is doubtful if a newly-hatched queen would force her way whilst soft through excluder. The insect is detained by the thorax, which is, I think, never sufficiently soft, after the queen has gained strength, for her to pass excluder without return. Her efforts to leave the hive would be far more strenuous than those to enter the super.

Teetolerance (page 127).—Glad to see the Editor has poured oil on this water question. But surely a bee-keeper who is used to his "cups" will most successfully graft his larvæ! Would this case be entirely met by Mr. Archer if he were to try some of Mr. Taylor's queens, and if the latter were to send him some mead to entirely "assuage" him?

Queries and Replies.

[3493.] *Transferring Bees.*—Having for several months past been a constant reader of the B.B.J., from which I have gained much useful knowledge, may I ask if you will kindly assist me in the following matter? Rather late last year I put two lots of driven bees in a hive holding fourteen standard frames, and fed up on syrup for a fortnight; after which, the bees declining to take any more syrup, I gave them a few cakes of candy, and packed down with chaff and old blankets, ensuring, as I thought, sufficient warmth. However, during the last spell of severe weather the bees all died, leaving a fair amount of food in comb, also some dead brood. There are six frames of comb in all. Now to the part on which I ask your assistance. I have a good strong stock of bees in a hive, the frames of which are about an inch longer than standard size. I should like to transfer these bees to the hive first mentioned as having been occupied by the driven stock. I have been advised to cut the combs out and transfer them to the standard frames according to what is considered by some as the accepted method; but this seems to be a task for an expert (which I am not, nor is there one near me to my knowledge). I therefore ask:—1. Would it not be a much simpler and safer plan to place the old stock on the top of the empty hive, as I saw described in the BEE JOURNAL a few weeks since, and let them transfer themselves to the hive below? This could well be done, as the outside measurement of the empty hive is larger than that of the one now occupied by bees. 2. If you consider this would be the best plan for an amateur, will you kindly say when is the best time to do it? Also, if the combs formerly used by the dead bees (in which there is some food) might be used again? Any other advice you can give will be greatly appreciated. Name sent for reference.—H. A., Ipswich.

REPLY.—1. The plan suggested by yourself will not only be "the simplest and safest" for an amateur, but for anyone

desirous of securing the most advantage from it under the circumstances. It is also the method recommended and fully described in the "Guide Book." 2. With regard to date for the task to start, it depends on the strength of the stock and the weather conditions at the time. If the bees now cover six or seven frames well, remove the outside ones *if free of eggs or brood*, and contract the hive by dummy boards. Next, prepare the beeless hive by reducing its size to the same number of frames as the one now occupied; then place above the top-bars a single quilt of American cloth (or of jute carpet) in which is cut a hole 7 in. or 8 in. square. This done, and weather being favourable, set the empty hive, thus prepared, on the stand now occupied by the strong stock, and the operation is, so far, complete. The middle of a fine day, when bees are busy foraging, should be chosen, and if all is done properly the bees will settle down to work in their enlarged home, and in due course the brood-nest will be transferred below. Two or three weeks later an examination must be made to see that the queen is laying well in the lower hive. This made sure, the combs in upper hive must be looked over to see that no drone-brood is in the combs. Then replace the quilt above top-bars by a queen-excluder, and the work of transferring is complete. The present non-standard frame-hive becomes a super worked for extracted honey.

[3494.] *Moving Hives to Foraging Ground.*—Kindly advise me, through the medium of your paper, on the following: 1. In November last I reduced the size of my hives by removing two frames from each side; some of the combs removed were very dark in colour, whilst others were light-coloured and clean. Are the dark-coloured ones fit for returning to hive this spring? Also, what is the reason of the difference in colour? 2. We have not much fruit blossom, such as apple, pear, &c., close at hand, but about a mile and a half off there are a number of good-sized orchards, also plenty of hawthorn blossom on the hedges. Would it be of any advantage to obtain stands and remove my hives to the vicinity whilst blossom is out? 3. I bought a hive last autumn the bees of which had not filled any supers, but had gathered plenty of honey to carry them through the winter. The person I got it from had had it from the season previous. Would it be advisable to requeen it this spring, or wait until autumn; also, how should I do it? I enclose name, and sign—BEGINNER, East Yorks.

REPLY.—1. The difference in colour of combs no doubt arises from some (the light-coloured ones) not having been occupied with brood. 2. We question if it would be worth while—from the "profit" point of view—to move bees a mile and a half to the fruit orchards unless the weather at the blossoming time was settled and warm. The fruit-bloom crop is always a precarious one, seeing that an "easterly wind" stops the secretion of nectar in the blossoms. We have seen acres of orchards in Kent white with blossom, and not a bee working on it during the whole time, owing to adverse winds. If warm, it would be worth while to try the experiment, but not otherwise. 3. If you can be sure the queen is in her third year, requeening would be advantageous, but the bees may have deposed the old queen and raised a successor. You should therefore judge her value by the present condition of the stock. If you engage in such work as requeening, it is absolutely necessary to procure a "Guide Book" to help you in the work.

Notices to Correspondents.

ENQUIRER (Throwoe).—*Choice of Bees.*—Our personal preference is for a really good strain of the common or native bee, unless price is of not much account, in which case you might try a tested queen of selected strain from one or other of the best queen breeders who advertise in our columns.

NOVICE (Barry). — *Using Stores from Dead Stocks.* — To all appearance the honey in combs sent is perfectly wholesome for bee-food, but we cannot judge safely without seeing a sample of comb containing brood from the hive your sample was taken from.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

PURE AND SELECTED ITALIAN QUEENS (see advertisement in "British Bee Journal," March 28th).—Address, ENRICO PENNA, San Ruffillo, Bologna, Italy.

HOUDANS, splendid layers, excellent table-birds, non-sitters; eggs, 2s. 6d. per dozen, unfertiles replaced if returned.—MISS BRIGGS, The Croft, Wilmslow. x 45

EXCHANGE for Bees and Appliances, High-class Coventry Bicycle, 27in. frame, Coaster Hub, Front Rim Brakes, best Tyres, condition as new, complete, with all accessories, or will take £6.—ROBERT BULLOCK, 8, Park View, New Farnley, Leeds. x 47

FOR SALE, nine good Stocks Bees, home-made Hives, lot of Frames, Honey Extractor.—MRS. WARD, Holly Hayes Wood, Whitwick, Leicestershire. x 46

TWO "W. B. C." Hives, nearly new, containing strong Stocks of Hybrid Italian Bees, on ten Frames, £2 each.—DAVIDSON, The Towers, Beacon Hill, Bath. x 52

Special Prepaid Advertisements.—*Continued.*

EXCHANGE Bell Glass Super, to hold 10 lb. Honey, Shallow Frame Super, for Straw Skep, with ten Frames, complete, new, Abbott's make; three years "Bee Journals," clean, for strong swarm of Carniolan Bees. — DOWNING, Bank-street, Mexborough, Rotherham, Yorks. x 54

WANTED, Combed Section Racks, Combed Shallow-frame Boxes, clean and healthy. Cheap for cash. — DOWNING, Bank-street, Mexborough, Rotherham, Yorks. x 53

A SMALL BUT COMPLETE APIARY of sixteen Stocks of Bees and equipment for disposal at a reasonable price.—Particulars apply to A. D. WOODLEY, Little John's Farm, Oxford-road, Reading. x 63

FOR SALE, Splendid Light-coloured Honey, Sections and Extracted.—CHAS. BOCOCK, Ashley Apiaries, Newmarket. x 62

FOUNDATION-STRETCHING prevented by "Nondescript" device, better than wiring, less trouble, every cell free for breeding. See Mr. Fraser's letter, "British Bee Journal," March 7th, Sample set, with directions, P.O. 1s. 1d. — W. PALMER, 174, Curzon-street, Netherfield, Nottingham. x 61

EGGS from Exhibition Poultry, of pedigree laying strains, Black and White Leghorns, Melbourne's and Sturges', all birds in my pens are tested layers, of splendid type, 3s. 6d. sitting, unfertile replaced.—PIDDUCK, Association Expert, Sunnyside, Alsager, Cheshire. x 56

STRONG, HEALTHY STOCKS OF BEES, packed in "W. B. C." Body Boxes, 16s. each. —BRANDIS, Formby, Lancs. x 59

WANTED, three Frame Hives, "W. B. C." pattern, with all inside fittings complete, in exchange for lady's hogskin saddle. Mutual approval; or sell £3. — POLLARD, 30, Bolton-road, Silsden. x 58

QUEENS, Natives, Healthy Stock, reared 1906, ready for despatch, 5s.—O. KNIGHT, Epney, Stonehouse, Glos. x 57

FOR SALE, five Stocks of Bees, splendid workers, guaranteed healthy, three in "W. B. C." Hives, each with two Shallow-frame Supers, one in Taylor's "Nineteenth Century" Hive, and one in Taylor's Dovetailed Hive; all practically new; also Cowan's Extractor and Honey Ripener. The lot £7, including outfit.—Apply, 7, Hose Side-road, Liscard, Cheshire. x 49

1906 QUEENS FOR SALE.—GAMBRILL, Tailor, Bagshot-road, Ascot, Berks. x 48

PRIME JUNE SWARMS, guaranteed healthy, 10s. 6d. and 12s. 6d.; orders now booked; first come first served.—F. E. MATTHEWS, The Cofton Apiary, Northfield, Birmingham. x 51

HONEY PLANT SEEDS, 200 seeds each, six early blooming annuals, including Limnanthes, 6d.; 100 seeds each six perennials, including Chapman's Honey Plant, 6d.; all named, post free.—HORTON, Ness, Neston. x 50

BEESWAX, 80 lb., 1s. 6d. lb., very clean. — HARRISON, Bee Farm, Middleton, Pickering, Yorks. x 60

FIRST-CLASS STOCK of Italian Hybrids, 1906 Queen, in Lees' "Holborn" Hive, splendid condition, 30s.; also excellent Stock Italian Hybrids, 1906 Queen, in Meadows', 21s. Hive, three Super Lifts and Frame, as new, price 35s.; grand Stock pure Italian 1906 imported Queen, in Taylor's "Twentieth Century" Hive, extra Body Box and two Super Lifts, with Frames, 40s.—PIDDUCK, Association Expert, Sunnyside, Alsager, Cheshire. x 55

WANTED, 500 SWARMS, in May and June.—HERROD AND STEWART, Luton.

THREE Strong Stocks Bees, Young Queens, Standard Frame, new last year, guaranteed healthy, 25s. each.—W. TILDESLEY, Meaford Crossing, Stone, Staffs. x 39

EXPERT requires Gentlemanly Youth as Pupil in large Apiary; no premium if help given; board, 25s. per week.—E. E., care of "Bee Journal." x 42

Special Prepaid Advertisements.—*Continued.*

FOR SALE, 25 Shallow Frame Boxes, with Frames, 1s. each.—BENNETT, Heacham, Norfolk. x 43

EGGS FOR HATCHING, from finest pens of utility birds: Black Minorcas, Brown Leghorns, White Leghorns, 2s. 6d. sitting, unfertiles replaced.—HARRISON, Bee Farm, Middleton, Pickering. x 41

FOR SALE, the following well-made Frame Hives: 1 "Wells," 5 "W.B.C." pattern, 3 Single-walled, with Strong Stocks of Bees, all requeened last year, and guaranteed healthy; hives have outer lifts for 2 racks shallow frames or sections, £12 lot, or nearest offer, or will sell separately.—SNOWDEN, Bee Expert, Epworth. x 40

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

"NEVER SWARM" SYSTEM, twelve years' absolute success and double surplus, free, 3½d.; Spring Feeders, "The Best," refilled without removal, 1s. 6d.; 12, 16s., free.—HARRIS, Wavendon, Bletchley, Bucks. x 24

GUARANTEED HEALTHY, "Never Swarm" Queens, of 1906, in travelling and introducing cages, 7s. 6d.; Five-Frame Nuclei, Brood, Stores, and Queens of 1906, 15s. — HARRIS, Wavendon, Bletchley, Bucks. x 23

SIX STRONG, HEALTHY STOCKS, with young Queens, plenty of stores, 25s. each; Honey Extractor, with cover, 16s. 6d.; smaller one, 14s. 6d. —BOWMAN, Bee Expert, Workington. x 12

EXCHANGE "Gardeners' Chronicle" from 12th March, 1903, to 16th Oct., 1906, clean, with Supplements, for "Bee Journals" before 1892. —Address, L. GOFFIN, Wakes Colne, Essex. x 21

PURE ENGLISH GRANULATED HONEY, 14s. per 28 lb. tin; sample, 2d.—GEORGE WEBB, Berghers Hill, Wooburn Green, Bucks. x 14

HEALTHY Stocks, in Bar Frame Hives, 20s. to 25s.; on Frames, 3s. per frame; also White Wyandotte Eggs, for sitting, 3s. doz.—HEMMING BROS., Standlake, Witney. x 13

FROM the Apiary of the late John Stone.—30 healthy Stocks of Bees for sale, guaranteed free from foul brood, all young queens, £1 each, on eight Standard Frames, in travelling box; full apiary, consisting of forty-eight Stocks. — Apply, JOHN STONE, Little Cubley, Sudbury, Derby. x 11

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw cap jars, 7s. doz., 77s. gross; ½ lb. ditto, 4s. 6d. doz., 45s. gross; 14 oz. ditto, 6s. 6d. doz., 72s. gross; Honey in bulk, 48s. cwt.; pure breed sitting eggs, 4s., guaranteed.—TURNER BROS., Sandpit Poultry Farm, Croydon. w 65

G. C. BURGESS, Rose Cottage Apiary, Wenden, Saffron Walden, plant and market grower; agent for "One and All" seeds, &c.

HIVES, 7s. 6d., satisfaction guaranteed, for ten Standard frames, made by machinery, 9in. lift, roof, and porch, painted two coats 2s. 6d. extra, cash with order.—COX, Smallbrook-street, Birmingham. v 88

WHITE ORPINGTONS and BLACK MINORCAS.—We have again some splendid pens of each variety, bred from exceptional layers and true to type; special price to brother bee-keepers. Eggs 3s. for 15, 10s. for 50; day old chicks, 6s. doz., £1 for 50; all carefully packed, carriage paid on two sittings.—J. HOUSEHAM, Huttoft, S.O., Lincolnshire. w 3

SITTINGS OF PURE WHITE Silver and Partridge Wyandotte Eggs, all from best laying strains; White and Silver, 2s. 6d. and 5s.; Partridge (from H. Wright's first prize Crystal Palace strain), 5s. and 10s.; Essex incubator, 50 eggs, self supply lamp, in perfect working order, 30s.; also Conqueror Hive (Simmins'), with 3 Section-racks and 300 Sections for same, 35s.—H. KEIGHLEY, Kirk Hammerton, York. v 71

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

CONVERSAZIONE.

(*Continued from page* 134.)

Tubes containing black brood in various stages of decomposition were handed round for inspection.

In response to the Chairman, who asked if anyone present had seen black brood in this country, Mr. Ernest Walker said his apiary had been affected with it, and he would like to hear Mr. Cowan's suggestions for the treatment and cure of the disease.

The Chairman replied that the remedy was similar to that adopted for foul brood—requeening, the removal of combs, and starting the bees on new foundation.

Mr. Walker had found that the bees would remove the dead brood, especially when queenless or raising a fresh queen. He had not tried giving them a new queen; they raised their own, and were apparently quite healthy afterwards. They turned out as many grubs as he could hold in his two hands. When he came to requeen the stock in summer he found they had requeened themselves.

Mr. Salmon asked if formalin had been tried. He thought it might be effective.

The Chairman had not heard of its being tried in this country. It had not proved successful in America, and they adopted the same remedy both for black and foul brood as the one he had mentioned.

Colonel Walker was sure the meeting would join him in thanking the chairman for his able and scientific lecture. He did not himself quite understand whether *Bacillus alvei* had been determined in the aggravated cases that hardly admitted of cure as well as in the minor instances. Harrison, Mackenzie, and Howard had all found it just as in our disease. Professor Harrison worked in the Biological Laboratory in Berne and had an opportunity of studying the European form, and had examined diseased larvæ from England, France, Switzerland, Austria, Germany, and Italy, as well as from Canada and thirteen of the States of the Union, and succeeded in isolating *Bacillus alvei* from all of them. Black brood seemed to be a new scourge, known seven or eight years ago in America, but only within the last two years in Europe. It might be that Dr. White's conclusions were not absolutely reliable. It was well known that bacteria changed very much in their association with other bacteria; some preferred company, and were unable to perform their regular function without the assistance of others. Virulence was also increased by association. He would instance *Bacillus coli communis*, which is normally present in health in our alimentary canal, and perfectly harmless, but when in conjunction with other organisms is able to cause intestinal irritation and inflammation. It is quite possible that *Bacillus alvei* with other bacteria may produce a new disease the character of which may not be yet quite understood, and which might disappear, and it may account for some of the numerous bacilli found by different observers. He (Colonel Walker) thought the chairman mentioned that in this country two forms of the disease had been recognised, and he wanted to know whether in the less aggravated form *Bacillus alvei* had been determined.

The Chairman answered in the affirmative.

Colonel Walker was of opinion that they must suspend judgment at present regarding the American reports. It would not do to assume that foul brood had changed its character. One of the most definite rules governing experts was that which laid it down that ropiness must exist in foul brood; but if the Americans were correct, the instructions to experts would have to be revised. He thought, however, English bee-keepers would still pin their faith to that well-known characteristic as a means of recognition.

Mr. Sole would like to confirm some of the facts stated in the chairman's paper. He had been familiar with foul brood for some years, and was well acquainted with the "ropiness" symptom. Last spring he found on opening some hives—in his capacity as expert—every appearance on the surface of ordinary foul brood, but the "ropiness" was absent; there was, however, the black look similar to that of the specimens handed round. He had also seen the same thing at Cambridge and further north.

Mr. W. F. Reid hoped Mr. Cowan's most interesting paper would be published in the B.B.J., when it could be read and studied. A great deal depended on the isolation and identification of a bacillus; but the latter could not be complete unless the bacillus was produced by cultivation. He did not feel quite sure that Cheshire's conclusions were unquestionable. He grew the germ in a solution, but it was open to doubt whether *Bacillus alvei* would grow in a broth. By means of the juice of the grubs themselves passed through a filter, and then incubated in the hive, he had obtained a reproduction of the germ. Many observers had found a bacillus which they regarded as *Bacillus alvei* under conditions where neither foul nor black brood was present. It might be that,

like the *Bacillus coli communis* in the body, it remained quiescent through failing to unite with other bacteria. There were the four methods of identifying a bacillus mentioned by Mr. Cowan, and they had not yet all been followed up by any investigator as regarded *Bacillus alvei*. He thought that should be insisted on. It was no doubt a very difficult thing to do in the case of that particular bacillus. It would be most advantageous if some person with time, means, enthusiasm, and scientific knowledge could be found to undertake the task. Mr. Weston had asked whether there was not any department of the Government whose duty it was to inquire into these diseases. There certainly existed such a department, but its investigations concerned cattle, swine, and the larger animals, and it did not trouble about bees. He nevertheless thought that if bee-keepers would agitate sufficiently the Government would take up the question, and work at it with the funds at their disposal. The inquiry was too vast a one for any bee-keeper to undertake unless he had time and appliances at his disposal.

Mr. Crawshaw asked whether the bacillus found in the Dahlem researches, which so resembled *Bacillus alvei*, was one and the same bacterium. Some little time ago there was a scare that it was so.

Mr. Reid replied that all these bacilli were identical in form, and could not be differentiated except by cultivation. Mere morphology told nothing on that point. Observers were continually finding new disease germs, and amidst them all it seemed a wonder that anyone was alive. (Laughter.)

Mr. Edwards considered that this matter of black brood had been sprung on them. Not having seen anything which he could differentiate as black brood from foul brood, it had occurred to him that the mild form and virulent form most likely arose from one bacterium fructifying another, thus causing two organisms to work together. Mr. Reid had spoken of *Bacillus alvei* not being capable of cultivation through an ordinary medium, but Cheshire's experiments showed that it could be cultivated in all the ordinary media, through which it might be identified.

Mr. Reid said with regard to the growth of *Bacillus alvei* in different media, some of the researches of Cheshire were not corroborated afterwards. He had very grave doubt whether there was not some error in the investigation. He said that in the B.B.J. the investigations of Professor Harrison were fully tabulated, and the morphological differences shown, and the effect of that was to corroborate.

The Chairman considered Dr. Cheyne a most careful observer, whose cultures could always be depended upon. He tried different media, and was able to detect *Bacillus alvei* in several of them. Mr. Cheshire was able to produce the disease from a culture in milk, the signs being unmistakable. Then Mr. Cheshire tried the experiment of cultivating the bacillus in the juices of the drone, and succeeded in doing so. Dr. White had not been able to reproduce the disease. He (the chairman) did not think they could allow that Dr. White had proved his case conclusively. It was quite possible that discoveries had been made which might put aside what Mr. Cheshire had done. Professor Harrison corroborated all that was done by Cheshire and Cheyne, and upon comparison it would be found that they agreed very closely. He (the chairman) was prepared to abide by their findings rather than accept the new ones without further investigation. Mr. Crawshaw spoke about the Dahlem experiments. It seemed to him (Mr. Cowan) that it was quite possible the investigators he referred to had been experimenting on the larvæ of black brood and not on foul brood. It had been suggested that the disease was brought from America. It was recognised that foul brood came from Italy to this country, but the disease there was endemic and quite different from the form which prevailed here. There it was of a mild character, but *Bacillus alvei* was present. Where foul brood broke out in a new district it was always much more virulent than where it already existed. It would not be surprising to learn that this black brood came over from America—he would not like to say one way or the other. It would not be fair to affirm that either foul brood or black brood was an American importation.

Mr. Edwards suggested that possibly the different results obtained were due to the use of different culture media. Two or three different investigators at work in media of a different kind would hardly be likely to produce the same effects. Before arriving at a conclusion one ought to know exactly what medium each was using.

Dr. Elliot quite agreed that neither Dr. White nor Dr. Phillips was able to produce the disease, and it was certain that Cheshire and Cheyne had found *Bacillus alvei*, and were definitely able to produce foul brood by experimenting with this single bacillus; but it did not follow on that account that there should be no other cause. It was well known that certain diseases (pneumonia, for instance) were caused by several bacilli. It was possible there might be another bacillus engendering the disease, or there might be two acting in conjunction, as in diphtheria. Again, the same bacillus sometimes caused two separate diseases; for instance, typhoid bacillus not only

induced typhoid, but also pneumonia, and it would cause meningitis and even other complaints. That had been demonstrated by culture. It was therefore a possible deduction that *Bacillus alvei* was answerable for both foul and black brood, although of course he could not assert that. He did not know whether it had been found in black brood; but it was at least clear that the same bacillus under different conditions might produce different diseases. One reason why a great many persons had not been able to isolate *Bacillus alvei* was because they tried to grow it on gelatine and similar media, but it should be grown in broth first. It grew quicker thus than in any other medium, and often failed to reproduce in other media unless first grown in broth.

Mr. Crawshaw asked whether it would not be possible to exchange investigations with the Americans, so as to get the doubtful points settled.

The Chairman thought such a plan would not be workable unless the substance were sealed up in sterilised tubes so that other bacteria could not get at it.

Mr. Crawshaw suggested that an official sample of foul brood might be sent over here from America.

The Chairman said that Professor Harrison had carried on his investigations, as he had already mentioned, in Canada and other places, and he (the chairman) believed his findings to be much more valuable than those of any of the other experimenters. They corroborated what Cheshire and Cheyne had found, but they also showed that the foul brood he investigated in America and Europe was the same.

The discussion on the Chairman's paper then concluded, after which Mr. Till said it occurred to him that this meeting was a very important one, and he regarded it as the beginning of a new epoch in the history of the B.B.K.A. When one looked back on its past under the able guidance of the late president, one could not but feel that the Association had served its purpose well in the last generation, but that it would be no light matter to find a successor to the distinguished lady; and well might they have been stranded but for the happy inspiration that occurred to Mr. Weston. He felt that they were that evening starting on a new career. He had watched the progress of the Association for some years, and remembered the occasion when at a public meeting in that hall they presented the late secretary of the R.S.P.C.A with a handsome gift of honey subscribed by members from all over the country. He thought that the happy event which had taken place that afternoon in the election to the presidency of the Worshipful Master of the Wax Chandlers' Company was a matter for general congratulation among bee-keepers. It was extremely interesting to apiculturists to remember that at the time the Wax Chandlers' Company was in its prime wax was an important article of commerce—in fact, the only material available for lighting purposes; and he was sure the records of the Company, if they were to be published, would afford most entertaining reading to all those who followed the old industry. He had seen at the library of the Company their Normansell cup (dating from 1680), on which was engraved the whole story of the bee-industry; there was the swarm of bees on the wing, the hiving and the tanging of the bees; there was the making of the wax and the candles; and he was consequently sure that the history of the Company's work through many centuries would afford most interesting details. He was very thankful to welcome in the name of the B.B.K.A. the presence of the Rev. Mr. Dummelow and Mr. Bridgwater as representing the old Company so intimately connected with the industry of bee-keeping, and was certain such union would lead to very important results, and increase the influence and usefulness of the B.B.K.A.

The Chairman quite endorsed Mr. Till's remarks, although he had already, before Mr. Till's arrival, offered their guests (Mr. Dummelow and Mr. Bridgwater) a hearty welcome on behalf of the meeting. Nevertheless, he was glad that they had been accorded a double greeting.

Mr. Weston said that Mr. Till had kindly taken the wind out of his sails, and he would therefore leave unsaid any expressions of welcome he had intended to offer their visitors, who he knew would take them as said. He considered the B.B.K.A. had by its latest act advanced a step in the path of evolution, and that it now had the consciousness of continuity —a permanent head.

(*Report continued next week.*)

CHESHIRE B.K.A.

ANNUAL GENERAL MEETING.

The annual general meeting was held on Monday, February 25, 1907, at Clemence's Café, Northgate Street, presided over by the Rev. T. J. Evans. Those present were:—The Rev. T. J. Evans (in the chair), the Rev. E. Charley, the Rev. E. A. Hutton, Messrs. E. P. Hinde, T. D. Schofield, J. A. Bally, J. Astbury, E. Pidduck, W. H. Atherton, H. Potts, A. Lister-Kaye, Wm. Kelly, A. Newstead, W. Clement, and N. S. Grant Bailey. The minutes of the last annual meeting were read, confirmed, and signed. The report

and balance-sheet as printed, with additional paragraphs regarding insurance and overdue subscriptions, were adopted. A hearty vote of thanks was accorded the honorary officers, auditor, and librarian for their services during the past year. His Grace the Duke of Westminster was unanimously re-elected president of the association. The vice-presidents were re-elected with the exception of Mr. G. Atkin and Mr. R. O. Orton, whom death had removed. No one having been found to undertake the duties of secretary and treasurer, the Rev. E. Charley offered to act as hon. secretary and treasurer for three months. This offer was accepted unanimously, and it was left to the committee to deal with the matter later on. A letter was read from Mr. J. Lyon Denson saying that, owing to pressure of business, he did not seek re-election on the committee. Mr. T. D. Schofield was elected in place of Mr. Denson, and the Rev. E. Charley was elected in place of Mr. T. Johnson, and the rest of the committee were re-elected. Mr. R. S. Linnell was elected hon. librarian; Mr. Tonge was re-elected hon. auditor; the Rev. T. J. Evans, the Rev. E. Charley, Mr. T. Johnson, and Mr. E. Pidduck were elected lecturers; and Messrs. T. D. Schofield and E. P. Hinde were chosen to represent the association at meetings of the B.B.K.A. A vote of thanks was accorded Mr. Schofield for his past services as hon. treasurer to the association since its formation in 1899, and previously for many years to the Lancashire and Cheshire B.K.A.

BERKSHIRE B.K.A.

ANNUAL MEETING.

The Berkshire Bee-keepers' Association held their annual meeting at the Abbey Hall, Reading, on Thursday, March 28, when a fair number of members assembled. Owing to the absence through illness of the chairman, F. B. Parfitt, Esq., J.P., the chair was taken by Mr. W. G. Stoneham (vice-chairman). The annual report and balance-sheet were presented and adopted.

The loss, during the last three years, of the annual grant of £50 from the county council has been severely felt as curtailing the work of expert visiting, lectures, &c. Each member receives monthly a copy of the *Record*, but only those members who specially ask for it are visited by the experts. Naturally the cost of visiting members located long distances apart is, perhaps, high, and in consequence not only does the "balance in hand" steadily diminish, but the membership roll tends to follow suit.

Business concluded, light refreshments were served, after which Mr. H. Edwards entertained the company with an exhibition of lantern slides illustrating objects of general interest. The Hon. Sec., Mr. D. W. Bishop-Ackerman, manipulated the lantern.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[6671.] A fortnight of fine weather has been followed by snow, sleet, and cold showers, just enough to germinate lately-sown seed and revive the grass crops, and start white clover and vetches into growth. The sainfoin fields also give plain indications of new growth. The bees also have put in a fortnight of busy days, and though slight night frosts have been prevalent, the daytime has been of June-like warmth, and the bees have been rifling the early flowers wherever found. On Sunday the horse-chestnuts were already showing flowers, and all these signs of advance in nature mean early brood-rearing, with enlarged brood-nests. Therefore, should we get a spell of cold weather, great care must be taken to avoid scarcity of food, or the results may be disastrous to the stock.

Census of Bee-keepers.—Referring to what has appeared in recent issues of the B.B.J., it would be most interesting if a census could be taken of bee-keepers in every county, with the number of hives owned (collectively) by each. The results of the efforts of our friend Mr. Till in the county of Kent are really astonishing. Three thousand bee-keepers! No wonder our honey-markets are glutted or that prices are on the down-grade, and the problem broached, "Will bee-keeping cease to pay?" Evidently the great point before us is to use every means in our power to increase the use of honey as a staple article of food. If the medical faculty would commend honey as an article of diet to those with throat and chest complaints, and make it known that a mixture of honey and butter equals cod-liver oil, and, moreover, can be taken and retained ofttimes when the oil would be rejected, it would tend greatly to extend the use of our bee-produce. We hear of large quantities of honey being used in the manufacture of the much-advertised

cough syrups—our grandparents brewed their horehound tea and sweetened it with honey, and after a few doses their coughs and colds were cured.

New Use for Bees.—Referring to Mr. Reid's mention of this on page 113, I should consider it was the protected position of the lower branch that made the difference in the quantity of fruit. For several years past I have planted early potatoes under a low, spreading plum tree, and when others have been nipped by frost these few rows have invariably escaped, owing to the protection of the tree above them; or the position of the hive may have caused a draught which dried the fertilised flowers. Flowers, as we know, will not be so susceptible to frost when dry as when damp with dew or rain.—W. Woodley, Beedon, Newbury.

ROSS-SHIRE NOTES.

VARYING SIZE OF BROOD-FRAMES.

[6672.] Since referring to my success with close-ended shallow brood-frames in your pages I have had some inquiries about same, while in a recent issue Mr. Crawshaw suggests that I am a converted large-frame-ist, now veering to the other extreme. I admit having been mildly enthusiastic over a frame larger than the standard, and my one "Quinby" colony justifies its existence by continuously taking the lead as regards yield of clover-honey. But here, as in other heather districts, the bee-keeper has to consider the ways and means that will enable him to harvest the bulk of this most precious nectar in saleable form. Most of us know to our cost that the standard frame catches a large proportion of the late crop in this way, seriously lessening the amount stored in sections. It can be readily understood that a frame 2 in. shallower gives lessened facilities for brood-nest storage, while their being close-ended makes these frames almost ideal for those who move stocks to the moors. Heather men who want the best results are strongly recommended to give these frames a trial. I have already secured a hundred of them, and several others have been supplied at a reasonable price by the originator, Mr. Alex. Reid, Urray, Ross-shire.

I forgive Mr. Reid his "hit" at me (page 114) if he himself gets off the fence with that improved hive of his, and allows it to figure among the novelties for 1907.

After "D. M. M." writing up the new departure at length (May, 1905)—not forgetting my own contribution to the subject in the following December—it is really too bad that our friend should still keep readers of the B.B.J. from closer acquaintance with an invention the merits of which gained it first prize and silver medal at the Edinburgh show last autumn.

As regards sections, I am still working the tall and square varieties side by side, and consider the former preferable for the production of a fancy grade of honey. The use of tall sections adds a new pleasure to bee-keeping.—J. M. Ellis, Ussie Valley, March 28.

BEE-NOTES FROM CORNWALL.

[6673.] *Mixed Breeds of Bees.*—In my opinion the further mixing of different breeds of bees in England is undesirable. The present English bee is of mixed blood to an extent that will serve for years to come. I myself find the crosses between English and Italians are strong and vigorous, but with a wasp-like temper that renders their management anything but a pleasure. They are, in fact, undesirables. I consider that English bees well managed give just as good results as any other race, and are a pleasure to handle. Are we to deprive our islands of their distinctive type of bee? That's what it will come to if bee-keepers keep on importing Cyprian and Italian bees. It is a mischievous craze, hurting us all round.

Foul Brood.—Recent investigations appear to bear out the theoretical conclusions that I have put forth in the B.B.J. for some time past. Germs are not the cause of disease. They merely flourish in a soil previously rendered suitable for their existence. What constitutes the conditions is what we want to discover.

Will Bee-keeping Cease to Pay?—"D. M. M." was not in my mind when I condemned injudicious "boasters." Our Scottish friend may well be optimistic seeing that he has a special source of supply for a product that is saleable at a high price; but if he lived under English conditions he would not be very much enamoured of a stimulated competition by a vastly-increased number of producers. The matter is getting rather serious for many.—W. J. Farmer, Redruth.

BEE-KEEPING IN CEYLON.

[6674.] I have been trying my hand at bee-keeping here for a year, with no very conspicuous success. One after another three stocks of Italian bees have died out. The last, however, I divided, introducing a Cyprian queen to about half a tumblerful of bees on November 7 last year. These are going ahead—at first fairly fast, but latterly more slowly. Still, they *are* progressing.

As I am in want of your advice, it may be well to describe the character of our climate out here. From Christmas to the

middle of March we get night frosts, occasionally as much as 4 deg., for this place stands at 6,200 ft. elevation. The days, however, to about May 20 are sunny and hot. Therefore, from the middle of March to the middle of May, when weather is fine and nights not frosty, I presume the bees would enter supers—that is, during two months of honey-harvest.

In May and right on to the end of August we have even temperatures, but fierce winds and fine, driving rain; this is the S.W. monsoon. From September to Christmas we have very sudden and heavy plumps of rain, but no frost, and weather otherwise sunny. About October we get an abundance of gorse-blossom, and in March a mass of Australian wattle (acacia). Besides this, there is a large amount of nectar in jungle trees, &c. In fact, there is always honey going of some sort or other. There are three species of wild bees here—viz., *Apis dorsata* (as large as a hornet and very vicious), *A. indica* (not much more than half the size of the European bee), and *A. florea* (the size of a house-fly). The first and last will only build on branches of trees in the open, so that *A. indica* is the only one capable of real domestication. I have now four stocks of these in frame-hives. *A. indica* is rather vicious in temper, and its queen hard to find. But I have observed this bee carefully in comparison with the European bee, and note the following points in its character:—(*a*) It remains in the hive all through the S.W. monsoon, whereas the European bee tries to go out, and gets swept away by the wind, and is lost. (*b*) It is not so prolific as the European. I fancy 1,200 eggs per diem is the outside of what the queen lays. (*c*) It is much more quick and restless in visiting flowers and returning to the hive—hence it escapes the lizards—whereas the Italian sits and pants on the hive-entrance, and the Cyprian, though it does not do this, is not so quick among flowers. (*d*) *A. indica* swarms in March and April.

Now I think my Cyprians are going slowly for two reasons:—First, many of them fall victims to lizards; second, the present frosty nights make them think winter is approaching, and so they prevent the queen from laying too much. The queries I would like your reply to are:—1. Do you think I am right in this view? It seems to me that my best chance of improving the bees is to cross the Cyprian and *A. indica*. 2. Can this possibly be done in view of disparity of size? 3. Would it be possible to shut up the European bees during the S.W. monsoon, and would they go on breeding if I fed them inside? The temperature at that time is about 57 deg. to 62 deg. Fahr. I suppose I ought to mate *A. indica* queens with Cyprian drones; but as I have none of the latter I am proposing to do it the other way about. It seems to me that I must reduce the size of the Cyprian queens in order to mate with Indian drones, and I propose to effect this by making a stock of *A. indica* raise queen-cells over Cyprian larvæ. 4. Will the small size of queen-cell make the Cyprian queens useless? 5. Can you tell me the exact dimensions of *A. indica* queens and workers; or, if you do not know, how am I to measure them? 6. The Cyprian worker is slightly larger than the Italian, I think. What would be the size of the hybrid Indo-Cyprian? 7. How could I get back the hybrid breed to European size?

The following point may interest you. *A. indica* will draw out European foundation, but thickens the walls of the cells. The cells so formed are perfect circles—not hexagonal. Does not this prove that the bee's cell is really circular, but becomes hexagonal by pressure?

I think the Cyprian bee is maligned. Those I have are very quiet; but when quilts are removed they have a way of boiling up over the tops of frames, and when frames are lifted out the queen does not stand still like the Italian. That is the only fault I have against them, and in their favour we have the fact that they have gone ahead while the Italians have died out. I have never used a veil when manipulating them, and have not so far been stung.—H. CAMPBELL, Yalta, Nuwara, Ceylon, February 16.

[On the general question of the most suitable bee for your purpose, we have no hesitation in saying that the Cyprian is the best, if not the only one, for use in Ceylon. In our opinion, any attempt to cross the Cyprian with *Apis indica* would fail. Moreover, no advantage that we can see would be gained by crossing, and the Cyprian possesses many qualities that make for success in working with it for profit. Even in England some bee-keepers speak very highly of its working powers and gentleness in handling, though its temper is at times uncertain, and it is liable to make unexpected attacks when being manipulated. Bearing this in mind, we reply to your questions as follows: 1. Don't waste time in the effort to cross the two kinds, except experimentally. 2. We think not. 3. You might do this with the help of the "claustral" detention-chamber, invented by Pastor Gouttefangeas. Your remaining questions need no reply, if our view of the impossibility of hybridising is accepted.—EDS.]

AN EARLY SWARM.

[6675.] I send cutting from the *Launceston Weekly News* recording a swarm on March 28, and may say St. Juliot is

a small parish joining Boscastle on the North Cornwall coast, and although so near to the Atlantic is a very sheltered place, most of the land in the parish consisting of the two sides of a valley running N.N.W. to S.S.E. I have not received any particulars of this swarm yet, but it would not be an unusual thing from a skep in the remarkably fine weather we have been experiencing and the situation I have described.—J. BROWN, Expert, Cornwall B.K.A., Polyphant, April 6.

ST. JULIOT.

Mr. S. Boscombe, of New Mill, had a swarm of bees on March 28, which is a very rare occurrence. The very hot weather of that time no doubt accounted for it.

WEATHER REPORTS.

WESTBOURNE, SUSSEX.
March, 1907.

Rainfall, ·87 in.
Heaviest fall, ·19 on 12th.
Rain fell on 12 days.
Below average, 1·28 in.
Sunshine, 218·4 hours.
Brightest day, 31st, 11·6 hours.
Sunless days, 3.
Above average, 74·6 hours.
Maximum temperature, 64° on 31st.
Minimum temperature, 23° on 12th.
Minimum on grass 20° on 12th.
Frosty nights, 10.
Mean maximum, 52·3.
Mean minimum, 34·6.
Mean temperature, 43·4.
Above average, 1·4.
Maximum barometer, 30·48 on 27th.
Minimum barometer, 29·65 on 18th.

L. B. BIRKETT.

March, 1907.

	Temperature. Average Max.	Average Min.	Total Rainfall. in.
1st to 10th ...	46.5 ...	30.7 ...	0.37
11th to 20th ...	46.5 ...	37.1 ...	0.52
21st to 31st ...	58.2 ...	28.7 ...	0.02
	50.4	32.16	0.91

Gales to the middle of the month, followed by keen, frosty nights and bright, dry weather—good for the bees.—From observations taken by Mr. S. BUTLER, Hook, Hants.

MARCH RAINFALL.

Total fall, 1 in.

Heaviest fall in 24 hours, .20 in., on 16th.

Rain fell on 14 days.

W. HEAD, Brilley, Herefordshire.

Queries and Replies.

[3495.] *Bee-keeping in South Africa.*—Being a subscriber to the B.B.J. and *Record*, and only a beginner of fifteen months' experience in bee-keeping, I would be much obliged if you would answer the enclosed questions. I have an apiary out here of forty-five hives, twenty-five of which are occupied, and I hope to fill the remainder of the hives during our next honey-flow (July). I have had considerable success in grafting queen-cells this summer, and am looking forward to Italianising my whole apiary if (and this "if" means a lot!) the Italian queens ordered from Mr. E. H. Taylor arrive here alive.

I propose sending you shortly a photograph of my apiary for insertion in "Homes of the Honey-Bee" in the B.B.J. I am keenly interested in my pets, and am never so happy as when amongst them. The apiary is kept in scrupulous order, and I am at present having the entire place grassed; not having grown enough, I am afraid that it will not show in the picture. I only know (and have never heard of) but one other lady-bee-keeper out here. I am considered very brave (?) to handle bees as I do, and other bee-keepers say my bees are especially tame ones. I think they behave themselves so well because they have become so used to my being always around them, and then I have *never* allowed them to get into that bad habit of robbing, coming to see what is going on whenever one opens a hive. I have from the first been most careful never to allow them a taste of stolen sweets. I have spent a lot of time cutting lace-paper. Strange, it is unobtainable out here. My questions are:—1. How can I get the bees to accept queen-cells in an upper story, with a laying queen below, over a honey-board? In every instance, although I have experimented on strong colonies, putting ten frames of brood (in all stages) above, the bees have invariably refused to accept the prepared cells, evidently enjoying the royal jelly, which was carefully cleaned out. In the case of queenless bees I have always had six or eight accepted and fine large queen-cells completed. The cells are prepared on the Doolittle method. 2. How can I introduce a laying queen to bees that have already a laying worker? Although I caged a queen three days, she was at once balled when I let her out. Is there no safe way of introducing a queen under the conditions mentioned? I finally destroyed all the drone-brood, giving the bees a new set of frames of worker-brood. They immediately started queen-cells. 3. Will you tell me how to feed back extracted honey? As I have a

lot of this, and can get no sale for it, I want to get the bees to put it all into sections in order to complete 100 of these partly filled at present. I chose two of my strongest colonies which were working in shallow-frames (which were at the time half-filled), and put a crate of the half-completed sections above; the bees persisted in putting all the food into the frames. I then reversed the order, putting the sections below, but with no better luck. At last I have taken the extracting frames away altogether. The bees seem to be working very reluctantly, taking down the syrup much more slowly. How do you account for this, and what is the proper way to feed back and get sections completed and sealed over nice and white? 4. I am importing several Italian queens. What is the safest and surest way of introducing them in order that I may not run any risk whatsoever? So many methods are advised that I do not know which to follow.—A. E. Pullinger, Malvern, Natal, S. Africa.

Reply.—1. As you are apparently using the method of queen-rearing advocated by Mr. Doolittle, we cannot offer you any better plan of getting queen-cells accepted than that followed by himself, which plan you are no doubt acquainted with already. We would, however, suggest the purchase of Sladen's "Queen-rearing in England," price 1s. 1d., post free, from this office. Mr. Sladen's book contains full directions for ensuring success on his own plan, besides much information useful to queen-breeders. We are so certain that you will like the book that, to save time, we are sending the book on "sale or return" terms. 2. We fear it is not a fertile worker, but an undersized unfertile queen that is causing the bees' refusal to accept an alien queen. Have another careful search and see if we are not right. 3. It is very difficult to get bees to remove honey from one comb to another, as you endeavoured to get them to do. It will be better to extract the honey from the half-filled combs and give it back to the bees in good-sized feeders placed above the sections. Glass jam-jars—covered with very fine muslin—inverted above the sections will answer very well. 4. The dealer from whom you purchase queens will send directions for introducing, and guarantee safe introduction if instructions are carefully followed.

[3496.] *Bee Dress for Lady Bee-keepers.*—As a reader of the B.B.J. I shall be pleased if you will give me a description of the sort of dress usually worn by lady bee-keepers while manipulating hives. I have three stocks of bees in frame-hives, also three empty hives, which latter I hope to fill this season. I am only an amateur at present, last season being my first attempt at bee-keeping, and as my occupation takes me away from home for a great part of my time, my wife has perforce to attend to the bees while I am away. This makes me anxious to know the best dress for her to use while doing so, in order to avoid being stung. Thanking you in anticipation of reply, I send name, &c., and sign—A Lover of Bees, Andover, March 27.

Reply.—Beyond the ordinary bee-veil, should more than this be required, we venture to suggest the dress known to ladies twenty years ago as the "Bloomer" costume, with an over-skirt, when among the bees. More than this we cannot say.

[3497.] *Dealing with Foul Brood.*—Please accept thanks for your letter answering my inquiry *re* suspicious comb from hive at Denstone. I wrote the owner, enclosing your letter, and asking him to burn the hive and all belonging to it. I hope therefore there will be no spreading of the disease. I have not touched my own hives or those of others since, and have disinfected all the tools and appliances used when examining the diseased stock. I should think infection would hardly carry on my clothes, but perhaps it would be best and safest to take the precautions you recommend, or put on fresh clothes when I examine any more hives, and will do so if you advise it.—T. H., Uttoxeter.

Reply.—You cannot be too careful in so pronounced a case of disease as the one in question, and we gladly approve of your action all through.

TRADE CATALOGUES RECEIVED.

E. H. Taylor, Welwyn, Herts.—This 88-page catalogue is, as usual, fully illustrated, and contains not only a full list of bee goods for all classes of buyers, but copious hints on bee-management, recipes, &c., together with a price list (well illustrated) of incubators, poultry houses, and other items connected with bees and gardens.

Jas. Lee and Son (Head Office and Motor Power Works: Martineau Road, Highbury, London, N.; Showroom: 10, Silver Street, High Holborn, W.C.), Bee Farm, Fulbourn, Cambs.—Messrs. Lee, who have now added to their own business that of the late J. H. Howard, and are sole manufacturers of "British Weed Foundation," are again to the fore with a well got up list of bee-appliances suited for large or small apiaries. Being originators of many of the best hives and of useful improvements in various directions connected with bee-keeping, their goods may be relied on as the outcome of practical experience, which is the best of all recommendations.

S. J. Baldwin, "The Apiary," Stanley Road, Bromley, Kent.—Along with this well-known 52-page fully-illustrated catalogue is combined the late S. J. Baldwin's "Bee-keeper's Instructor," with directions for the whole year's work in the apiary. Mr. Baldwin had fixed ideas of his own with regard to hives and appliances, and these are well illustrated in the list before us, which can be had post free for 2d. on application.

Jones Brothers, The Bee-keepers' Supply Stores, Monk's Acre, Andover, Hants.—Messrs. Jones's list, though small (16 pp.), is well got up and compact. We note they have a novelty in honey-extractors from which much is expected, and it will, no doubt, be put before the public in due course to be gauged on its merits.

R. Steele, Wormit, Dundee.—This is a comprehensive list of 64 pages, and includes, besides a long list of bee-appliances, particulars of incubators, poultry houses and foods, bicycle houses, meat safes, &c. It is exceedingly well got up and well illustrated.

Thomas W. Harrison and Son, Cheapside, Nottingham, issue a neat little catalogue of bee-appliances, dairy utensils, garden tools, and furniture of all kinds. It is well arranged and practical in every detail, nothing useful in an apiary or garden being omitted.

Bee Shows to Come.

May 28 to 31, at Maidenhead (Berkshire B.K.A.).—Show of Honey in connection with the Annual Exhibition of the Royal Counties Agricultural Society. Over £20 in prizes. Schedules from D. W. Bishop-Ackerman, Hon. Sec. Berks. B.K.A., 161, King's-road, Reading. **Entries close May 1.**

June 25 to 29, at Lincoln (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Special classes for the Lincs. B.K.A. only. Schedules from E. H. Young, Sec. B.B.K.A., 12, Hanover Square, London. **Entries close May 28.** Schedules and particulars for Lincs. B.K.A. classes from R. Godson, Hon. Sec. Lincs. B.K.A., Tothill, Alford.

Notices to Correspondents.

A. E. (Wilts).—*Preserving Spare Queens.*—The simplest method we know of is to use small frames fitted with built-out combs on the plan of the "Swarthmore" mating-boxes. Each queen would of course need to have a couple of hundred bees for warmth and looking after any brood that might be reared. Constant care and feeding will also be necessary.

Curious (Waltham Abbey). — *Glass Covers for Frames.*—Very full particulars regarding glass coverings for tops of frames in hives have appeared in our pages at various times. We could send back numbers for four stamps containing information of much interest on the point.

T. S. (Carlisle).—1. The crocus is not included in honey-forage plants, though bees visit the flowers freely for pollen. 2. The snowdrop is practically of no use to bees.

W. F. Greaves (Lancs.).—Bees sent are the common native variety.

Novitiate (Reigate).—1. If your purpose is to try the "Wells" hive and system we advise you to procure Mr. Wells's pamphlet on the subject. It only costs a few coppers, and gives full particulars. 2. We prefer a good "Bingham" smoker for subduing bees.

J. Sharman (Great Berkhamsted).—There is unfortunately no county B.K.A. for Herts.

Honey Sample.

J. Cucksey (Cambridge). — There is no reason whatever for doubting the genuineness of honey sent; nor is there any trace of sugar about it. The quality, however, is hardly good enough for your price, seeing that excellent clover-honey can be had in bulk at about 56s. per cwt., and yours, though genuine, is only about third-grade in quality.

Suspected Combs.

Doubtful (Jersey).—1. Dead larvæ in comb somewhat resemble black brood, but not in very pronounced form. 2. The bees have no doubt died from disease, but we cannot say, judging from a distance, whether from dysentery or not, though the symptoms named point that way. 3. Combs "much soiled" through dysentery are only fit for melting down for wax. 4. A text-book on bees is absolutely necessary to every bee-keeper, especially ladies.

E. W. P. (Pontypridd).—Comb contains foul brood of old standing.

F. S. (Milford Haven).—Similar case to the above. Stores left may be used for household purposes, but not as bee-food. If hive is thoroughly disinfected on plan proposed it may be used again with safety.

J. Willard (Highgate).—The dead brood has a very peculiar appearance, and we will be glad to hear further about it as promised.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

CASE of 2 in. A. I. Root's No. 1 4-way Sections (1,000) for sale, to clear, 16s. — L. GOFFIN, Wakes Colne, Essex. x 26

FOR SALE, ROLL OF FELTING, 18 yds. by 5 ft.; 24 Standard Frames, wired with full sheets foundation and ends, 15s. the lot.—E. BENNETT, Heacham, Norfolk. x 74

DOVETAILED "W. B. C." HIVES, painted, £1 each; slightly-used ones, 12s. 6d. and 15s. each; all complete, guaranteed free from any disease.—H. SWIFT, Churchdown, Cheltenham. x 73

EIGHT STOCKS BEES, in Frame Hives, 16s. each; purchasers to remove them.—GEO. WEBB, Station-road, Swindon. x 70

RATHER DARK HONEY (½ cwt.), what offers? ½ cwt. Light White Clover Honey, 5d. per lb.; samples, 3d.—LILLY, Mill Farm, Dean, Kimbolton. x 71

HEALTHY STOCKS, in Standard Frame Hives, 21s. each.—REV. JARVIS, Coleford, Glos. x 69

WANTED, GOOD, CLEAN, SECONDHAND BEE APPLIANCES, &c.—State full particulars and lowest price to W. MORLEY, Birstwith, Leeds. x 68

FOR SALE, "Wells" Hive and 1 Straw; Strong Stocks, also Appliances and two empty Hives, £3 10s. lot.—DAVIDSON, Rowan Cottage, Ratho, Midlothian. x 84

BEES.—Two Strong Stocks, Standard Frame Hives, guaranteed healthy, 25s. each, 2 carriage paid, cash or deposit. — WARREN, JUN., Great Horwood, Bucks.

CHAMPION "NEVER SWARM" BEES.—8 Frame Stocks, in brood box, 22s. 6d.; with complete Hive, 37s. 6d.; 5 Frame Nucleus Queens, 1906, 15s.; "The Best," most practical Feeder made, 1s. 6d., free; complete "Never Swarm" Hive, 20s.; Booklet, "'Never Swarm' System," 3½d., free.—HARRIS, Wavendon, Bletchley, Bucks. (25 years' "Bazaar" Reference.) x 86

EXCEPTIONALLY GOOD CORNISH HONEY, 14 lb. tins, at 6d. lb.; Screw-top Jars, 8s. 6d. doz.—TILLING, Hessenford, Cornwall. x 67

DON'T FAIL to have one of my Hives before Swarms come; all Hives sent out are fitted with Frames and Sections with Starters, and painted. Cottagers, 8s. 6d.; "W. B. C.," 15s.—RANSOME, Hellingly, Sussex. x 77

SALE, CHEAP, 7 Racks, with 10 Shallow Frames each, good comb.—WHITE, Liquorice Works, Selby. x 66

STRONG Healthy Stocks of Bees for Sale, in nearly new "W.B.C." Brood Boxes. Ten Frames, first-class condition, 18s. each.—FREEMAN, 17, Highfield-road, Saltley, Birmingham. x 76

GIVING UP BEES.—Four Stocks (three in Bar-frame Hives), 1 Pettigrew Skep, with Super, Extractor, Appliances, &c.; Purchaser must take them away.—C. PLATT, Laurel Cottage, Stopsley, near Luton. x 80

FOR SALE, Pure English Light Honey; sample, 3d.—LAW, Cuckoo, Ashwell, Herts. x 65

SIX HEALTHY STOCKS of BEES, 12 Hives, including Observatory, Crates ready for use, Feeders, Large Quantity of Sundries; cheap; owner must remove; inspection invited.—Apply by post for appointment, BARNES, 3, Cavendish-road, Brondesbury, London, N.W. x 87

HONEY.—12 doz. finest quality Sections, 8s. doz.; 4 cwt. Light and Medium Honey, in 28-lb. tins, 6d. per lb.; screw jars, 8s. doz.—W. SMITH, Cangle, Haverhill. x 83

A FEW STRONG STOCKS, in ten-frame Hives, 25s. each, guaranteed healthy.—C. RAYNER, West Bergholt, near Colchester. x 82

FOR SALE, 1 Stock of Bees on 6 Standard Frames, packed safe and put on rail.—Apply, LANSDOWN, Stow, Brampton Bryan, Salop. x 81

Special Prepaid Advertisements.—*Continued.*

LAYING QUEENS, 5s. each, from Driven Bees.—ARNOLD KING, St. George's, Silverhill, Hastings. x 79

WANTED, Carniolan Queen, at Once.—Apply to "QUEEN," c/o BEE JOURNAL Office.

FOR SALE, English and Italian Bees, in Bar-frame Hives.—Apply, THOS. HILL, Scotlands, Cannock-road, Wolverhampton. x 78

TWO MODERN BAR-FRAME HIVES, good condition, 6s. each.—H. FRY, Alwinton, Godstone-road, Purley. x 64

BOOKING ORDERS for SWARMS last week in May and June, at 10s., 12s. each, packed free. Order early.—HARRISON, Bee Farm, Middleton, Pickering. x 72

TEN STANDARD BAR-FRAME HIVES, Brood-Frames, &c., 7s. 6d., 10s. each; 2 Double ditto, with Frames, 7s. 6d., 13s. 6d.; Extractor, 15s.; Ripener and Sieve, 6s.; good condition; leaving district.—A. H., Matthew Furness, Rivelin Valley, Sheffield. x 75

PURE AND SELECTED ITALIAN QUEENS (see advertisement in "British Bee Journal," March 28th).—Address, ENRICO PENNA, San Ruffillo, Bologna, Italy.

HOUDANS, splendid layers, excellent table-birds, non-sitters; eggs, 2s. 6d. per dozen, unfertiles replaced if returned.—MISS BRIGGS, The Croft, Wilmslow. x 45

PRIME JUNE SWARMS, guaranteed healthy, 10s. 6d. and 12s. 6d.; orders now booked; first come first served.—F. E. MATTHEWS, The Cofton Apiary, Northfield, Birmingham. x 51

HONEY PLANT SEEDS, 200 seeds each, six early blooming annuals, including Limnanthes, 6d.; 100 seeds each six perennials, including Chapman's Honey Plant, 6d.; all named, post free.—HORTON, Ness, Neston. x 50

WANTED, 500 SWARMS, in May and June.—HERROD AND STEWART, Luton.

EGGS FOR HATCHING, from finest pens of utility birds: Black Minorcas, Brown Leghorns, White Leghorns, 2s. 6d. sitting, unfertiles replaced.—HARRISON, Bee Farm, Middleton, Pickering. x 41

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw cap jars, 7s. doz., 77s. gross; ½ lb. ditto, 4s. 6d. doz., 45s. gross; 14 oz. ditto, 6s. 6d. doz., 72s. gross; Honey in bulk, 48s. cwt.; pure breed sitting eggs, 4s., guaranteed.—TURNER BROS., Sandpit Poultry Farm, Croydon. w 65

G. C. BURGESS, Rose Cottage Apiary, Wenden, Saffron Walden, plant and market grower; agent for "One and All" seeds, &c.

HIVES, 7s. 6d., satisfaction guaranteed, for ten Standard frames, made by machinery, 9in. lift, roof, and porch, painted two coats 2s. 6d. extra, cash with order.—COX, Smallbrook-street, Birmingham. v 88

WHITE ORPINGTONS and BLACK MINORCAS.—We have again some splendid pens of each variety, bred from exceptional layers and true to type; special price to brother bee-keepers. Eggs 3s. for 15, 10s. for 50; day old chicks, 6s. doz., £1 for 50; all carefully packed, carriage paid on two sittings.—J. HOUSEHAM, Huttoft, S.O., Lincolnshire. w 3

SITTINGS OF PURE WHITE Silver and Partridge Wyandotte Eggs, all from best laying strains; White and Silver, 2s. 6d. and 5s.; Partridge (from H. Wright's first prize Crystal Palace strain), 5s. and 10s.; Essex incubator, 50 eggs, self supply lamp, in perfect working order, 30s.; also Conqueror Hive (Simmins'), with 3 Section-racks and 300 Sections for same, 35s.—H. KEIGHLEY, Kirk Hammerton, York. v 71

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

CONVERSAZIONE.

(*Continued from page* 143.)

Mr. T. I. Weston introduced the second subject on the agenda for discussion—viz., "What Points are most Important to be kept in view by Queen-Breeders?"—by reading the following paper:—

Mr. Chairman, Ladies and Gentlemen,—Before stepping forward hopefully on our path through the work of the year it may be well to take a survey of the present state of matters connected with bee-keeping, in order that we may have some idea of the way we should endeavour to advance. Just now we seem to be "marking time" in most of the departments of bee-keeping. Look at the great department of appliances! The standard frame, decried by some as too small and by a few others as too large, holds its own ground as best adapted for the use of the majority of bee-keepers, and by varying the style of the hive can be made suitable for any locality in this country; the competition in hive workmanship, material, and price in no way affects the principle of construction. In appliances for extracting honey there has been no advance in principle, and in practice those now on the market are well adapted for their purpose. For extracting wax from old combs we still need an appliance that will effectively free the wax entangled in the hot, wet mass of cocoons. In the minor details for securing, storing, and marketing the honey-crop there are plenty of good things from which to select, the last great advance being the advent of a non-leaking screw-capped bottle. It must be admitted that the modern bee-keeper is well provided with tools for his craft. Can it with equal truth be said that the modern bee-keeper is well provided with bees? The answer is, No; and the proof of that statement lies in the fact that most of the discussions of late years in the bee-keeping world have been about the diseases of bees. This should not be; the loss of time and energy and of wasted appliances caused by unhealthy bees is the most serious drawback to the industry, so it is quite plain that what we need to strive for is a better bee. Nature, having no object of which we have understanding beyond the preservation of the species, has certain checks which tend to preserve the vigour of the queens; a wild swarm, to establish itself successfully, must come off early in the season. That can only be accomplished by a vigorous queen. Late or after swarms are difficult for a bee-keeper to work up into stocks that will go through the winter safely. All such, if wild, do certainly die off. Thus, on Nature's plan, only the vigorous queens with progeny hardy enough to withstand our cold, variable spring weather are left to perpetuate the race. The bee-keeper working only for profit, and with little knowledge of the way in which his modern methods influence his bees, cossets, nurses up, and tries to save weak stocks, producing a poor-class drone, to the detriment of better-bred queen-bees they may happen to mate, and as our modern methods, misused (I lay special stress on the word "misused"), do not tend to the elimination of the unfit, the result, taking the country generally, has been a deterioration in the race and a consequent increase in the number of diseases and the frequency with which they are found. If this statement is correct, what we most need is a system by which we may get back to a hardy, healthy race of bees, estimating those qualities as of higher importance than prolificness, gentleness, size, or colour. These latter are by no means to be ignored, but the two first are of supreme importance. That we are not alone in our complaint is amply proved by the pages of the B.B.J. for this year, notably by the passing of a "Diseases of Bees Bill" by the New Zealand Government—they evidently stand in need of healthy bees: also by the statements made at the last Chicago Conference, where all the leading men were of opinion that too little attention had been paid to the careful rearing of queens; and Mr. McEvoy in Canada has sweepingly said that 90 per cent. of queens on the American Continent want killing. Much evidence of this kind could be adduced, but it will suffice to give one more instance. A well-known Scotch bee-keeper writes:—"How many men can go on working with the rubbish they have is a wonder to me."

Having pointed out what needs to be done, it may cause you disappointment to say that it is beyond the power of the unassisted bee-keeper in this country to do it. Improvement in the breeding of bees must follow the same lines as govern the improvement of any other class of stock, viz., continuous and careful selection of parents on both sides. The difficulty for the individual bee-keeper lies in the fact that he can only exercise his power of selection over the queen, but not with any approach to certainty over the drone. Also his power of selection of queens is held over a very limited number, and does not lead to any permanent improvement.

The case of the professional queen-breeder is slightly different. He, also, is uncertain about the male, although he may have better means at his command for having a plentiful supply of good

drones, and his queens from which he breeds may be selected with care, but the resultant progeny passes from his hands without his knowing the qualities they possess; he has no further opportunity of re-selection from the large number, and so misses the most important cumulative effect of continuous selection. The method by which we could attain our desired end is by establishing a co-operative club for the breeding of British queen-bees. It would need at least 300 members, and would be better for having more. Then the club must obtain bee-control over suitable country extending over a circle drawn round the breeding centre, having as radius twice the length of a drone's average flight. It may here be remarked that, although many notes have been taken of the flight of worker-bees, little or nothing has been printed as to the distance drones travel. It is probably not far, as they do not forage. On this ground a queen-rearing apiary could be established, stocking it in the first instance with the hardiest pure English black bees obtainable. The young queens of the first year's breeding would, as soon as they proved fertile, be distributed to the members of the club, but would remain for twelve months the property of the club, and after that be the property of the individual member. This is a most important regulation, the idea being that the members should each make upon a carefully drawn-up form a full report of the qualities of the queen entrusted to him or her, and send it to the club expert, who would choose from these reports those queens he wished to have returned to headquarters to become the parents for the following season. The qualities to be reported on would be:—1. Healthiness; 2. Ability of the stock to keep itself free from all parasites; 3. Industry in honey-gathering; 4. Quality of comb-honey and capping; 5. Gentleness under manipulation. In this way the best from a large number of known parentage would be selected, and this system carried out for a few years, say six or seven, would result in a much-improved strain of English black bees. The strain, once established, would prove a very valuable asset, and after the first year the apiary would be almost self-supporting; when confidence in the quality of the strain was gained the apiary would return a dividend to the original members. Are there enough gentlemen in England interested in the prosperity of bee-keeping who will join together to make this scheme a working success? The cost of the scheme would be about £500 in 500 £1 shares, 10s. being paid on allotment, remainder as required. Although money to start with is essential, the number of club members is equally so, for it is upon the selective reports of a wide circle of members that the success of the scheme depends. I shall be very pleased to correspond with anyone wishing to join in carrying out this idea.

Mr. Bevan thought Mr. Weston's proposal was one of the best he had heard in connection with practical bee-keeping, and he would like to take part in the promotion of it. Re-queening was, he thought, a matter of great importance. After some years' experience he had come to the conclusion that to re-queen as frequently as possible was a means of preventing disease and of obtaining the best return in honey-gathering.

Colonel Walker was not quite sure that he understood Mr. Weston aright, but it seemed to him that an enormous amount of space would be required to carry out the project of controlling fertilisation, and that in any case the apiaries of outsiders would be contiguous thereto.

Mr. Weston thought there were secluded places in some parts of England where the apiary could be established under the charge of an expert. He had indicated in his paper the area that would be required.

Colonel Walker would be glad if the idea could be realised, but he saw many difficulties. For instance, there were always some pig-headed bee-keepers who would not allow their hives to be inspected, nor take any efficient measures to rid them of disease. They would be certain to reject the invitation to destroy their bees. Was it reasonable to expect that a piece of country could be obtained which would not include a case of that kind? He could not hope for it.

Mr. Weston replied that he had merely sketched his views, and could not enter into every detail in his paper. He thought Colonel Walker's objections could be met. How would Windsor Great Park do?

A gentleman inquired: "What about the bees located in the trees?"

Mr. Till was of opinion that a treeless area would be needed.

Mr. Carr, looking at the matter in a practical way, maintained that Mr. Weston's plan, although excellent in theory, was impracticable. According to his view it would not be possible to obtain control over a sufficiently large area to keep disease away. Besides, it was generally found that drones from some cottager's small skep were flying earlier than those of the more expert bee-keeper, and he maintained that if anything was done at all in the direction suggested by Mr. Weston, it should be left in the hands of men like Mr. Sladen, who was already devoting himself to the task. He was making close investigations, and doing his utmost to breed from selected queens. Mr.

Sladen could tell the area of a drone's flight, no doubt. He (Mr. Carr) was in possession of some particulars from Mr. Sladen which bore immediately on the question of breeding by selection; and these confirmed his (the speaker's) view.

Mr. Crawshaw had been to see Mr. Sladen, who showed him all he was doing. He had made an endeavour to re-queen the district around him. The existence of his apiary and the number of early drones he had on the wing helped to re-queen the surrounding area; but he (Mr. Crawshaw) did not think that sort of thing could be done by force, as there were great practical difficulties in the way. A queen-breeder required almost an ideal area to breed bees; but where there was a good honey-district it was sure to be crowded by bee-keepers. Mr. Sladen had told him that the cost of breeding queens in the way he was now doing rendered it practically impossible to produce cheap queens, and of course that was the important consideration in any enterprise of the kind. The regular professional queen-breeder could produce at a more advantageous price. Mr. Sladen, he believed, offered premiums for the return of queens which had excelled themselves. It was almost impossible to run a honey-apiary at the same time that queen-breeding was being carried on. Experiments showed that the drone's flight was not a distant one, although the flight of the virgin queen was an exceedingly long one. It was impossible to ensure mating within a short radius.

Mr. Reid said the sole difficulty seemed to be to find a suitable place to carry out Mr. Weston's project, and he thought that could be surmounted. Surely there were many districts to choose from. There was Lundy Island, an out-of-the-way place, no doubt, but he thought not an impossible one. Then one of the Scilly Islands might be feasible, especially as there was plenty of bee-forage grown there. In fact, he believed there were any amount of suitable places to be found. The results secured by Mr. Sladen would be very useful to guide them, as he was probably the best queen-breeder in the country; but the conditions under which he carried out his work were absolutely impossible for the attainment of the object Mr. Weston had in view. They had here the map of Kent, from which it was clear that Mr. Weston's scheme could not be realised in that county, but he had no hesitation in saying that there were isolated parts of Scotland where there were no bees within a radius of ten or twelve miles.

Mr. H. Edwards said that as regarded Windsor Great Park he knew of four apiaries there. He believed it had been found that the flight of the drones was comparatively short. There was a sort of meeting-place for them in the Park.

The discussion on Mr. Weston's paper then closed.

(Report continued next week.)

BEE-KEEPING IN KENT.

CONFERENCE OF BEE-KEEPERS AT EYNSFORD.

The meeting referred to on page 134 of B.B.J. for April 4 took place in the Drill Hall, Eynsford, on the 6th inst., and was a complete success, auguring well for the prospects of a new association arising, Phœnix-like, from the ashes of the old one. Under the guiding hand of Mr. E. D. Till, assisted by Mr. A. Schofield, the arrangements made for the accommodation of visitors were most complete, and on a lovely April afternoon —redolent of spring flowers and the hum of the bees—the pretty village of Eynsford was invaded by over a hundred and fifty men and women, bee-enthusiasts all of them, from all parts of the county, who responded to Mr. Till's invitation, and, once in the place of meeting, occupied themselves in pleasant discussion of the best way of reviving the old Kent B.K.A. on new and improved lines. The enthusiasm of the host was reflected in those present, and, large as was the attendance, it would have been still larger but for the long distances between the many parishes of the "Garden of England" and the trouble connected with railway time-tables.

Mr. Walter F. Reid, a prominent member of the B.B.K.A. Council, made an excellent chairman, urbane, practical, and business-like, and under his presidency the association was formed, a provisional council chosen, an outline of the purposes of the association and its methods of work described, the advantages of local centres in connection therewith discussed, and several useful ideas thrown out for the council to at once take into consideration. The new organisation will profit by the experience gained in the past. It will not attempt to cover more than the county of Kent, and its expert will not visit the members' apiaries, except optionally, and then only upon an additional payment for such visits. And, especially, the new association will decentralise its work, and rely for the vigour of its life upon local centres, with local secretaries, committees, and occasional meetings, when papers can be read and discussions (the important matter) held upon subjects of common interest. The subscription was fixed at 5s. per annum, and 2s. 6d. for cottagers.

The following gentlemen were nominated a provisional council of the associa-

tion, with power to add to their number: General Sir Stanley Edwardes, Hawkhurst; the Revs. H. Percy Thompson, Kippington; M. W. Osmaston, Goodnestone; C. Alder Stubbs, Crockham Hill; H. R. Ellison, Hothfield; Dr. Giddings, Beckenham; Messrs. E. D. Till, Eynsford; Thos. Armstrong, Lewisham; Arthur Schofield, Beckenham.

There were several interesting speeches during the afternoon, and a two-and-a-half hours' meeting ended promptly at five o'clock; for there was tea to be partaken of, at the invitation of Mr. Till, who was thanked by hearty acclamation for his generous share in the day's arrangements, and the visitors quitted the picturesque village and its delightful surroundings—by train, motor, and cycle—with, we are sure, the pleasantest memories of an enjoyable and profitably-spent afternoon.—(*Communicated.*)

LINCOLNSHIRE B.K.A.

ANNUAL MEETING.

The annual general meeting of the Lincs. B.K.A. was held on March 23, in the Guildhall, Lincoln, by the kind permission of the Mayor. In the unavoidable absence of the Right Hon. Lord Heneage, President, and G. J. Young, Esq., J.P., Chairman of the Association, Mr. F. J. Cribb was voted to the chair, and presided over a large company of members and others from nearly every part of the county. The report and statement of accounts were read and duly adopted after a long discussion. The balance-sheet, for the first time in the history of the association, showed a liability of £15. The report mentioned that the Holland County Council had voted £10 to be expended in lectures in their parts of the county, and that the Lindsey County Council had renewed their grant of £15, which had been expended in lectures at various centres. The Right Hon. Lord Heneage was re-elected President, as were all the retiring officers to their respective posts. There was a drawing for various appliances kindly given by friends of the association. At the conclusion of the meeting Mr. W. Herrod, F.E.S., gave a most interesting and instructive lecture on "Queen-raising," illustrated by lantern slides.—R. Godson, Hon. Sec., Tothill, Alford.

HONEY SHOW AT MAIDENHEAD.

The Royal Counties Agricultural Society having fixed on Maidenhead for their venue this year, may I be allowed space to say the management of the apicultural section devolves upon the Berkshire B.K.A., and, though available funds are considerably less this year as compared with former shows held in Berkshire, over £20 is being offered in prizes; and as the show is being held a fortnight earlier than usual, May 28 to 31, honey of any year is available for all classes, thus affording good chances of prize-winning for those possessing the good honey so much in evidence last year. Duplicate entries at half fees, classes for single section and for jar of extracted honey, and a class for photographs of apiarian scenes are included in the list. Schedules now ready. (See "Bee Shows to Come.") It is expected that a small model apiary will be arranged in the show-grounds, in which lectures and demonstrations will be given instead of in the usual tent. It is also probable that arrangements will be made for the examination of candidates for third-class experts' certificates.—D. W. Bishop-Ackerman, Hon. Sec. Berks B.K.A.

THE HORTICULTURAL COLLEGE,

SWANLEY, KENT.

Two short courses of instruction will be given in gardening, dairy work, poultry work, bee-keeping, and fruit preserving. The bee-keeping section extends from April 25 to June 6. The instruction will consist of lectures and practical demonstrations connected with the bee-community; natural and artificial swarms; various kinds of hives and appliances; general management of bees throughout the year; queen-rearing; diseases and enemies, and means of cure and protection. For full particulars early application should be made to the principal.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

APRIL WEATHER.

[6676.] Yes; in what has gone of the month we have had "smiles and tears." The first week was delightful. Bees worked on crocus flowers, coltsfoot, willow catkins, and any of the few other flowers blooming. Then followed heavy rains, sleet showers, snowstorms. But you had this last in London, I noted. Here, however, our hills still retain a white cap. These vicissitudes are disagreeable, and although we have to grin and bear them, they are trying to the bees.

Spring Uniting.—Little in the way of precaution is necessary when uniting two lots in April or May, as the bees seem to amalgamate peaceably. The complaint too frequent is that weaklings united now are about as weak in a month as each was at the date of union. This often happens, and so I say if your queen is a good one rather preserve the colony. To do this, take all but about three frames away. Wrap carefully overhead, and contract with a dummy on each side, thus giving ample room for warm packing on each side as well. Entrance should be small, affording space for only one bee passing out while another is coming in. Place a feeder above, and feed steadily, giving the syrup warm. Keep at it, and you may have a rich reward. A neighbour with a weakling thus fed last year had his best record from the stock thus treated. The bees turned out a grand lot by the beginning of August. Mark, however, my introductory statement—"If the queen is good."

If there is no queen? Then perhaps simply ignoring the existence of that stock may pay the bee-keeper best. I had one of these this spring. Foolishly, I actually saw a queen-cell when taking off surplus; but the weather was so fine that I trusted the young queen would get fertilised, and on packing up did not test the matter. The "positive" information I recommended in my last "Extracts" would have saved me this stock. And it was a good one—a swarm of 1906, with a record of 109 completed sections. Don't do as I did; do as I tell you. *Know* what is inside your hives; have positive information.

"*All is Not Gold that Glitters.*"—The siren charming on page 93 makes Mr. Owen Browning (page 126) say, "*Almost* thou persuadest me to become a Scotch honey-man." The above proverb holds good, however, and our English friend seems to have it in his mind's eye, for he is content to remain in a state of suspended animation as far as the change is concerned, and be satisfied with "almost." Perhaps he is wise to change the simile, as there is a fly in the ointment, if not more than one. Our severe winters, our late springs, our paucity of early-flowering plants, our early frosts, our August floods, our long distance from commercial centres, the contents of my concluding paragraph, and many more drawbacks should all be placed in the balance.

"*Hadder Hoonni.*"—Hector Boece, in his "Chronicles of Scotland" (1500), says:—"In all the desertis and muirs of this realme growis ane herbe, namit hadder, but ony seid, richt nutritive baith to beistis and fowlis, specially to *beis*. This herbe in the moneth of July has ane floure of purpure hew, als sweit as huny. The Pichtis maid of this herbe, sum time, ane richt delicius and hailsum drinke. Nochtheless, the maner of the making of it is perist be the exterminion of the said Pichtis out of Scotland." This right delicious and wholesome drink is undoubtedly mead. I am unaware of the fact if heather honey has been turned to this use in modern times. If so, I should be very pleased to learn as to the result, and even to obtain the best recipe for this concoction. I presume the drink was made from the honey, although the extract quoted would lead us to infer that it was actually from the "herbe." Our county paper this week states that "the young shoots of heather are sometimes used as a substitute for hops in brewing," or "with the object of imparting a pleasing bouquet to the finished product." The writer of the second opinion believes that the Pictish secret, said now to be dead, will yet be discovered, "and then heath-producing Scotland may be a sort of Utopia, and the richest country in all the world." Amen to that last fervent wish!

Now that Mr. Weston and I have smoked the pipe of peace, and that the B.B.K.A. cordially invite all Scotch heather men to send their exhibits to the London shows, in the confident expectation of the cream rising to the top, while the skim milk will be left at the bottom, I am able once more to write about heather honey, and I now take up the cudgels over a new phase of this subject. Last week our local Press had a prominent paragraph headed in large type "'Scotch' Honey Fraud" (copy enclosed), asserting that "many tons of imported honey are sold as 'pure Scotch heather honey.'" No wonder the conclusion arrived at is that such action is "unfair." There is no reason why it should not further be dubbed a *downright fraud*. Using milder words would be a waste of time and printer's ink. If we are to take Mr. Ellis's estimate (page 124) of the specimen submitted to him as the correct one, a new bugbear is looming on the horizon. If rubbish such as he describes is to be palmed off on the public, our occupation, like Othello's, will be gone. I too, had a sample of so-called heather honey forwarded to me from England recently. While not so outspoken in my condemnation as Mr. E., I was able to tell the sender that in "colour, consistency, flavour, and smell it differed from any heather honey I had ever met with." More of this anon.—D. M. M., Banff.

BEE-NOTES FROM MID-OXON.

SELLING HONEY AND SWARMS.

[6677.] We often see the question raised, "Will bee-keeping cease to pay?" In my opinion, a properly worked apiary

is the most profitable of rural industries. But the tendency seems to be, in this neighbourhood at least, for more bees, but fewer bee-keepers. A large number of hives can be worked at a less percentage of outlay than can two or three only. I have found no difficulty in disposing of my produce, though at a lower figure than some insist we ought to get; but it yielded a profit of more than 10s. per hive, which is double what I can get on an original outlay of 30s. in any other branch of business that I have tried. So far from anticipating that the time for profitable bee-keeping is nearing an end, if I had another £100 of capital I should not hesitate to invest the bulk of it in bees. There must be a good many people in the United Kingdom who think with me, for last year, having a few swarms to dispose of, I had, in answer to a small advertisement in the B.B.J., applications for more than 300. I believe the largest bee-keeper in England is located in Oxfordshire, and I heard a whisper lately—which I have no valid reason for doubting—that he sold over £600 worth of honey last season. He has certainly over 500 colonies of bees to work for him.

A propos of the early swarm reported from Cornwall, is it not most probable that it was a "hunger swarm"? I was called to hive a swarm on March 25. I found that it was what is known as a hunger swarm, the bees having completely deserted their hive, which was not quite bare of food, for they had on some candy, which was too hard; but in one of the combs was some freshly-gathered honey, from apricot blossoms I should say, also brood and eggs. I hived the truants, and returned them to their deserted home, giving them a bottle of warm syrup. They remained there just forty-eight hours, then swarmed again, and this time decamped; and as I have since heard that a swarm of bees was seen settled on a clothes-line post about a mile away, I conclude they were the same. They had consumed about half their bottle of syrup. Is this not rather a unique experience? I send name for reference.—Mid-Oxon, April 13.

EXTENT OF DRONES' FLIGHT.

[6678.] Referring to Mr. T. I. Weston's letter in B.B.J. for April 4 (6668, page 137), one is glad to see a question raised which will tend to produce individuality of thought, and is likely to inculcate a love of scientific research on the part of British bee-keepers which is so marked on the Continent. There will be, I think, a consensus of opinion that the drones' flight is limited to within a small radius of the apiary, as the successful mating of the queen is in inverse ratio to the distance from the hives of the drones when on wing.

These full-blooded, lusty drones, exulting in their newly-found faculty—*i.e.*, power of flight—disporting themselves in the sunshine, carry on their aerial revolutions with great zest near the apiary. The queen, on leaving the hive, attracted by the deep, sonorous tones of the drones, becomes impelled towards them by some mysterious influence within.

The drones, through the medium of their eyes and powerful antennæ, soon become aware of the queen's presence, and eagerly give chase. Acting from a spirit of coquetry, and determining not to be caught without some effort on the part of the drones, the queen soars higher and higher, closely pursued by her amorous followers. Here it is a case of "the race to the swift and the battle to the strong," for the swiftest and most powerful drone is the privileged one.

Soon the queen is caught in the eager embrace of the drone, and after a brief moment of ecstasy love's voluptuous dream passes, the queen returning to the hive, while the unfortunate drone pays Nature's exacting toll by death.

Thus the better developed and more virile the drone is, the less the duration and the shorter the distance of this marital flight, while the opposite takes place if the drones are insufficiently developed. In the latter case the queen outstrips her pursuers and on such occasions often returns to the hive unimpregnated in consequence.—H. D. Flower, Ilsington, Devon.

POPULARISING BEE-KEEPING.

[6679.] In the British Bee Journal for August 17, 1905, you were kind enough to give a commendatory notice of my little scheme to popularise bee-keeping in this district. It occurs to me that you and your readers may be interested to know how the scheme has progressed, and I enclose a short statement of our experience. I have not sent it in the form of a letter for publication, as I do not wish to appear as advertising myself, but if you think my humble efforts are worth notice you are at liberty to make what use you like of the statement. I really do think that greater efforts could be made to establish bee-clubs on these or similar lines, and you may remember that in a subsequent issue of your journal (I think in September, 1905) I made a suggestion to the effect that I was surprised it was not better received. There must be any number of public-spirited men in the country who are keen on bee-keeping to whom a suggestion of that kind would appeal, but who, like myself, are too busy to carry it through without some co-operation. The details of work done are as follow:—

There are now seventeen hives installed

and working under this scheme; the full number started was nineteen, but the hirers of two of these have left the district. (I have also twenty-five hives in my home-apiary.)

Our experience with the out-apiaries has been varied, and although we have had foul brood in three of the hives, have lost some of the swarms, and in one case the queen, yet I am glad to say the enthusiasm for bee-keeping has distinctly increased. Some of those who availed themselves of my offer have at their own cost increased the number of hives, and some are making their own hives. The first hive worked under this scheme was installed in June, 1905; it yielded 42 lb. of surplus honey and one swarm that year. A new colony was formed from this swarm, and it yielded 35 lb. of honey last season. The average yield of honey has not been large, but that is not, I think, the fault of the scheme. I find that it is not until the second year of bee-keeping that inexperienced bee-keepers begin to feel thoroughly interested; and until they do the working of many small out-apiaries presents some practical difficulties. My bee-master is not always there when bees are swarming, and he finds it difficult to properly deal with foul brood in scattered out-apiaries; the feeding of the bees is not easy, and he finds it difficult to time his visits so that the bee-keepers are present and secure the benefit of object-lessons. The transportation difficulties are also not to be ignored. Notwithstanding all these objections, however, I have found the hobby highly interesting. But I could not have carried it on without the able assistance of my bee-master (Mr. Whitelaw), who now holds a first-class certificate of the British Bee-keepers' Association.

I am more than ever convinced that there is good scope in this country for the formation of village bee-clubs, and even of an association of bee-clubs. Not much capital would be required, and I feel sure that in the long run these clubs could be made quite self-supporting. — E. G., Maidenhead, April 7.

PROTECTING FEEDERS FROM COLD.

[6680.] A gentleman well known to readers of the B.B.J., looking through my apiary the other day, was pleased with a little device of mine for protecting brood-nest and feeder from cold whilst feeding, and suggested that I should describe it in the B.B.J., and with your permission I will do so. It is as follows:—I make the bottomless rack with woollen material tacked loosely on the under-side to hold cork-dust—well known to bee-men; from the centre of the woollen material I cut out a piece, leaving a hole a trifle larger than the feeder to be used. Into this hole I sew a piece of the same material very much larger than the piece cut out. This forms a bag in the middle of the material, which in operation becomes inverted, covering the feeder and allowing the whole to settle down closely on the first quilt, and the cork-dust may then be made to cover everything. There is no trouble in removing, except to place one hand on the feeder through the cork and cork-dust whilst lifting the rack with the other, and in replacing it settles down of itself. I have used such racks several years, and find them all that can be desired, as they are equally serviceable when the feeder is not in use.—W. J. Springett, Harlington.

EARLY QUEEN-REARING.

[6681.] It may interest your readers to know that I found early in March that one of my stocks had just raised a young queen. Of course, she is small, and being raised so early in the season I gave the stock up as being headed by an unmated queen, and consequently useless, and made arrangements for re-queening as early as possible. Much to my surprise, however, I found this morning (April 13) that she had mated and covered three frames with worker-eggs, some of which were sealed over. There was a drone here and there in worker-cell.—J. C. Roberts, Maidstone.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Kent B.K.A. (p. 131).—I wonder how the inaugural meeting succeeded. Did 3,000 bee-keepers turn up in all their might, and eat Eynsford out of house and home—and honey? All things are possible to an association if it has the right men at the head, and the "Kent" has possibilities. Why should not our associations emulate the Swiss in their careful compilations of statistics? Are we too conservative? What is the difference in temperament which makes possible such work as that detailed on page 132? Perhaps Kent will lead the van in reform.

Foul Brood Nomenclature (p. 132).—There seems to be reasonable prospect of this matter of American or European title to the distinction of the one and only foul brood becoming settled. Mr. Cowan makes the position clear in his paper (reported on page 132), and the current number of *Gleanings* has an article by Dr. Phillips in reply to his direct criticism. Further tests of the so-called *Bacillus larvæ* are to be undertaken, so the matter will not be allowed

to drop. America may have all the foul brood in the world so far as I am concerned! Don't mention it! Pleasure!

Pollen (p. 136).—Is it not more likely that the moisture in the pollen load is added by the bee when gathering? I have been making obesrvations which I hope to publish when complete, and I find that the mandibles are definitely used on certain flowers to gather the pollen, and, with the aid of the forelegs, to work it into putty before packing it. The whole process will repay anyone interested for the occasionally tantalising time spent in observation. On *Arabis albida* the stamen heads are often pulled off by over-energetic bees.

Drone Fight (p. 137).—There seems to be no reason why Mr. Weston's suggestion in this matter should not be tried. All that is wanted is some enthusiasm, but—and it is a big butt and almost bottomless—enthusiasm is a scarce and expensive commodity nowadays. My present belief is that drones do not fly very far. Whether or not, I venture to predict failure for the experiment, for not only would the proximate observers require to be Argus-eyed, but the chances of detection would be reduced inversely to the square of the distance. Of course, it would be necessary to "pre-arrange" an ideal day!

Mr. Farmer on Foul Brood (p. 137).—But if the germs are never in the honey, the honey-combs are safe to start with, so what is the value of fumigation to kill germs which do not exist? So also, how do the store-combs "appear" to be safe after fumigation with formalin? And if store-combs, why not brood-combs? Has Mr. Farmer actually tried the process and succeeded in curing diseased combs? Others seem to have failed, and it would be of value to have details of any successful experiments.

Censi (p. 144).—If that sounds too pedantic for common parlance, readers will perhaps use their common censuses to know what is meant! The Kent method of census-taking seems to be very effective, but Mr. Woodley should know something of the difficulty! His other suggestion for the extension of honey use is a good one, and a consensus of the doctors should give good results. If the liquor interest can obtain a medical manifesto, surely we can do so, and with less risk of adverse criticism. What do *you* say, doctor?

Queries and Replies.

[3498.] *A Beginner's Queries.*—1. I am about to start bee-keeping, and should be glad if you would advise me as to the treatment of a nucleus which I am obtaining. I have a good "W. B. C." ten-frame hive, fitted with foundation, quilts, &c. Shall I be in order in putting the three frames of the nucleus in the centre with a spare comb on either side and two division-boards? 2. If obtained at end of April will any extra packing be required? 3. How much syrup per day or week would a three-frame nucleus require? I propose starting with a nucleus colony rather than a swarm because, owing to business engagements, I have to be away during the latter part of May and the whole of June. 4. Would a nucleus started this month end be better than a swarm in mid-July? 5. I should also be glad of your advice with regard to the kind of bees to get. I think of trying Mr. F. W. L. Sladen, and so ask: Which do you recommend—British, "Golden Prolific," or Carniolans? The only place I have for them is about 14 yards from the house and close to a by-lane, along which is a moderate amount of traffic, and from which the hive would be separated by an 8-ft. trellis; the other side of the lane is open fields. There are children on either side who use the gardens quite a lot, so I should like something quiet. I expect to be moving further into the country in some twelve or eighteen months, and so want to start now with a single hive to gain some experience. 6. When would it be best to transfer from travelling case to hive? Should the bees be confined to the hive in any way? Your kind replies to the foregoing will oblige.—BEGINNER, Stratford.

REPLY.—1. Yes; quite in order. If weather is settled and warm, and the bees of nucleus colony cover the three frames well, you might put a frame of foundation next to the bees, and a frame of built-out next the dummy board on each side, making seven frames in all. 2. Plenty of wraps should be given till mid-May, or while filling up the hive to the full ten frames. 3. About 4 oz. 4. Yes. 5. We advise you to consult Mr. Sladen on this point, giving him all the particulars and plan of location for the bees as sent to us. 6. Soon as convenient.

[3499.] *Bees Turning Out for Spring-Flight.*—I should be glad if you could, in the B.B.J., give me an explanation of the following incident, and say what precautions should be taken to guard against such in the future. On Sunday, March 24, whilst watching the bees, I was surprised to see them suddenly come out of the hive in hundreds like a swarm. They then flew round the garden for at least twenty minutes, though not keeping very close together, and then finally returned to their hive. We afterwards found a live queen-bee on the ground below the hive, which we picked up, and let run in at the entrance. Some of the bees have since

been dragged out and killed by other bees in the same hive. Thanking you in anticipation of advice.—ARTHUR J. BROWN, Hereford, March 26.

REPLY.—It is by no means uncommon to see bees turn out in great numbers for an airing flight in early spring, and the queen sometimes accompanies them on these occasions. This is probably what resembled a swarm. You should examine the combs without loss of time to see if the queen picked up from the ground and returned to the hive is still heading the colony and all right.

Bee Shows to Come.

May 28 to 31, at Maidenhead (Berkshire B.K.A.).—Show of Honey in connection with the Annual Exhibition of the Royal Counties Agricultural Society. Over £20 in prizes. Schedules from D. W. Bishop-Ackerman, Hon. Sec. Berks. B.K.A., 161, King's-road, Reading. **Entries close May 1.**

June 25 to 29, at Lincoln (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Special classes for the Lincs. B.K.A. only. Schedules from E. H. Young, Sec. B.B.K.A., 12, Hanover Square, London. **Entries close May 28.** Schedules and particulars for Lincs. B.K.A. classes from R. Godson, Hon. Sec. Lincs. B.K.A., Tothill, Alford.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

F. T. COX (Maidstone).—*Snowy Mespilus.*—The botanical name of Snowy Mespilus is *Amelanchier botryapium* or *A. canadense*, syn. *Pyrus botryapium*, and it appears under these various names in nurserymen's catalogues of trees and shrubs. It is a hardy deciduous shrub, growing 6 ft. to 8 ft. high, and is propagated by grafting on the quince or hawthorn. Bears a profusion of white flowers in April to May. Other common names are grape-pear, June-berry, shad-bush, service-berry.

W. R. A. (S. Norwood.)—*Methylated Spirit.*—If purchased at a chemist's (not at an oil-store at 8d. per quart, as proposed), and pure methylated spirit is asked for, it will be quite suitable for the purpose of dissolving naphthol beta, as stated in the "Guide Book."

DISGUSTED (Sheffield).—*Heather Honey.*—The sample sent is genuine heather honey without any doubt, though coarse in quality compared with that costing 1s. 3d. per 1-lb. section. Seeing that the sample complained of would only be charged about 9d. per lb., the difference in quality is in a measure accounted for; but we cannot quite agree with your sweeping condemnation of the sample. Its fault arises from being badly harvested and kept in an unsuitable place. The result is that fermentation has set in, which injures the flavour and causes the disagreeable smell.

Suspected Combs.

C. T. S. F. (Herts.).—Comb contains foul brood of old standing.

(MISS) A. T. (Nottingham).—Foul brood is developing in comb sent. It seems a recent outbreak.

NOVICE (Flintshire). — Comb contains chilled brood only.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, 1906 HONEY, in Sections, 1 lb. Screw Cap Jars, and 28 lb. tins; sample, 2d.—H. J. WISBEY, Whittlesford Mill, Cambs. x 92

GRANULATED HONEY, 30 lb. tins, 6d. lb.; sample, 2d.—MEGGINSON, Atherstone. y 8

3 STOCKS, in Bar-Frame Hives, 25s. each; 1 Stock, in Skep, 10s. — Apply, GARDENER, Baron's Down, Lewes. y 5

SALE, SPLENDID CLOVER SECTIONS and Screw Cap Jars, 8s. 6d. doz. Wanted, Working or Gentleman Pupil, by Second-class Expert.—NICHOLSON, Langwathby, Cumberland. y 3

BEST ENGLISH STRAW-COLOURED RUN HONEY FOR SALE, 60s. per cwt., o.r., cash with order.—Mrs. A. S. BURN, "Crickhowell," Market Lavington, near Devizes. x 90

CARNIOLAN HYBRIDS, healthy, strong Skeps, 12s. each; Stocks on Frames, 15s., or in 10 Frame Hives, 25s.—VICAR, Uffington Vicarage, Shrewsbury. x 91

TWO STOCKS BEES, with 1906 Queens, from 20s.; also several Supers, first-rate worked-out Shallow Combs, 4s. each.—Miss SAXELBY, Hallgreen, Birmingham. y 2

31ST YEAR, NUCLEI, 3 Frames brood Bees, and 1905 Queen, 12s. 6d.; case, 3s., or returned carriage paid.—ALSFORD, Expert, Haydon, Sherborne.

FOR SALE, 10 New Hives, "W. B. C." Principle, cheap.—BAKER, Betteshanger, Dover. y 10

LADY OFFERS FOR SALE 5 Strong Stocks, on 10 Bar Frames, Standard size, 1906 Queens, 2 Golden Prolific, 3 Blacks, breeding and free from disease, 25s. to clear.—JOHN HETHERINGTON, 88, Main-street, Brampton, Cumberland (Local Hon. Sec. C.B.K.A.). y 4

BEES, 12s. 6d.; on Frames, 17s. 6d.; local delivery.—HANNAM, 70, Highgate-road, Birmingham. x 97

9 SKEPS OF ENGLISH BEES, strong and healthy. Skeps new last year, flat top, with hole; package free on rail; safe delivery guaranteed, 11s. 6d. each.—W. BARTON, Shortgate, Sussex. x 88

5 GOOD STRONG STOCKS, in nearly new double wall home-made Hives, with young 1906 hatched Queens, Bees and Hives in good condition; £6 10s., or will separate.—SNOWDEN, Bee Expert, Epworth. x 96

Special Prepaid Advertisements.—*Continued.*

CHAPMAN HONEY PLANT SEED, 3d. per packet, post free; tall Tie-over lb. Jars, exact size, 1s. per dozen, in three or more dozen lots.—WOODLEY, Beedon, Newbury.

FINEST QUALITY LIGHT-COLOURED ENGLISH HONEY, in 7, 14, and 28 lb. tins; sample, 3d., post free.—C. DUNN-GARDNER, Fordham Abbey, near Soham, Cambs. y 9

FOR SALE, PURE LINCOLNSHIRE HONEY, in 1 lb. Glass Jars, 7s. 6d. per dozen, carriage paid on one dozen only.—W. PICKWORTH, Osbournby, near Falkingham, Lincs. y 11

60LB. PURE ENGLISH GRANULATED HONEY FOR SALE, 6d. lb.; sample, 2d.—OFFORD, White House, Belchamp, Clare, Suffolk. y 7

I AM OFFERING new Early Swarms this season, on 10 Standard Frames, wired and fitted with half sheets of foundation, at 15s. per Swarm; all Bees warranted and safe arrival guaranteed. Printed instructions sent for transferring from travelling box to frame-hive, all Bees sent on approval, cash with order.—E. THOMPSON, Apiary House, Gowdall, Snaith, Yorkshire. y 6

2 VERY STRONG STOCKS, on 10 Standard Frames each, 2 empty Hives, 4 Section-boxes, all good as new. What offers? Late owner dead.—E. THOMPSON, Snaith, Yorkshire. y 1

FOLDING POLISHED BAGATELLE BOARD, 9 solid ivory balls, 3 cues. Cost £6 5s. Exchange for Extractor, drawn-out Shallow Frames or Sections; offers in Bee materials invited.—R., "Thurlby," Wallington. x 99

SPLENDID SECTIONS OF BEST HONEY. What offers?—Rev. A. R. RUNNELS-MOSS, Ladywood Vicarage, Birmingham. x 98

FOUNDATION STRETCHING PREVENTED by "Nondescript" device; better than wiring, every cell free for breeding; successful where tried. See Mr. Fraser's letter, "British Bee Journal," 7th March. Sample set, with directions, P.O., 1s. 1d.—W. PALMER, 174, Curzon-street, Netherfield, Nottingham. x 94

GOOD PAINTS, ready mixed, all colours, for Hives, Greenhouses, and general purposes, 3d. lb., in 7, 14, and 28 lb. lever-lid tins. Orders 50s. and upwards carriage paid.—W. O. JONES, Caerleon, Mon. x 89

SWARMS now booked, in rotation, May 12s. 6d., June 10s. 6d.—G. GILLETT, Prudential, Moreton-in-Marsh. x 95

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester. q 93

DUPLICATE "Bee Journals," bound and unbound, to exchange for bound volumes from 1889.—HERROD, Luton.

FOR SALE, 3 Stocks of Bees, in Standard 12 Bar-Framed Hives, in good condition. What cash offers? Must sell.—SQUIRES, Fisher Green, Ripon. y 12

DOVETAILED "W. B. C." HIVES, painted, £1 each; slightly-used ones, 12s. 6d. and 15s. each; all complete, guaranteed free from any disease.—H. SWIFT, Churchdown, Cheltenham. x 73

HEALTHY STOCKS, in Standard Frame Hives, 21s. each.—REV. JARVIS, Coleford, Glos. x 69

HONEY.—12 doz. finest quality Sections, 8s. doz.; 4 cwt. Light and Medium Honey, in 28-lb. tins, 6d. per lb.; screw jars, 8s. doz.—W. SMITH, Cangle, Haverhill. x 83

DON'T FAIL to have one of my Hives before Swarms come; all Hives sent out are fitted with Frames and Sections with Starters, and painted Cottagers, 8s. 6d.; "W. B. C.," 15s.—RANSOME, Hellingly, Sussex. x 77

Special Prepaid Advertisements.—*Continued.*

CHAMPION "NEVER SWARM" BEES.—8 Frame Stocks, in brood box, 22s. 6d.; with complete Hive, 37s. 6d.; 5 Frame Nucleus Queens, 1906, 15s.; "The Best," most practical Feeder made, 1s. 6d., free; complete "Never Swarm" Hive, 20s.; Booklet, "'Never Swarm' System," 3½d., free.—HARRIS, Wavendon, Bletchley, Bucks. (25 years' "Bazaar" Reference.) x 86

LAYING QUEENS, 4s. each, from Driven Bees.—ARNOLD KING, St. George's, Silverhill, Hastings. x 79

BOOKING ORDERS for SWARMS last week in May and June, at 10s., 12s. each, packed free. Order early.—HARRISON, Bee Farm, Middleton, Pickering. x 72

PRIME JUNE SWARMS, guaranteed healthy, 10s. 6d. and 12s. 6d.; orders now booked; first come first served.—F. E. MATTHEWS, The Cofton Apiary, Northfield, Birmingham. x 51

WANTED, 500 SWARMS, in May and June.—HERROD AND STEWART, Luton.

EGGS FOR HATCHING, from finest pens of utility birds: Black Minorcas, Brown Leghorns, White Leghorns, 2s. 6d. sitting, unfertiles replaced.—HARRISON, Bee Farm, Middleton, Pickering. x 41

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw cap jars, 7s. doz., 77s. gross; ½ lb. ditto, 4s. 6d. doz., 45s. gross; 14 oz. ditto, 6s. 6d. doz., 72s. gross; Honey in bulk, 48s. cwt.; pure breed sitting eggs, 4s., guaranteed.—TURNER BROS., Sandpit Poultry Farm, Croydon. w 65

HIVES, 7s. 6d., satisfaction guaranteed, for ten Standard frames, made by machinery, 9in. lift, roof, and porch, painted two coats 2s. 6d. extra, cash with order.—COX, Smallbrook-street, Birmingham. v 88

WHITE ORPINGTONS and BLACK MINORCAS.—We have again some splendid pens of each variety, bred from exceptional layers and true to type; special price to brother bee-keepers. Eggs 3s. for 15, 10s. for 50; day old chicks, 6s. doz., £1 for 50; all carefully packed, carriage paid on two sittings.—J. HOUSEHAM, Huttoft, S.O., Lincolnshire. w 3

SITTINGS OF PURE WHITE Silver and Partridge Wyandotte Eggs, all from best laying strains; White and Silver, 2s. 6d. and 5s.; Partridge (from H. Wright's first prize Crystal Palace strain), 5s. and 10s.; Essex incubator, 50 eggs, self supply lamp, in perfect working order, 30s.; also Conqueror Hive (Simmins'), with 3 Section-racks and 300 Sections for same, 35s.—H. KEIGHLEY, Kirk Hammerton, York. v 71

QUEENS, Natives, Healthy Stock, reared 1906, ready for despatch, 5s.—O. KNIGHT, Epney, Stonehouse, Glos x 57

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

GOLDEN-ALL-OVER QUEENS, 6s. 6d. to £1.—E. L. PRATT, Swarthmore, Pa., U.S.A. Handsome 24pp. brochure free.

FEEDERS, FEEDERS, FEEDERS.

The "Wilkes" convertible patent still unequalled, fifth year. Hundreds of testimonials from experts. Two feeders for the price of one, 3s., free. Send for booklet.—Sole licensee, E. H. TAYLOR, Welwyn, Herts. Inventor, Wilkes, Lichfield-road, Four Oaks, Birmingham. Agents wanted everywhere

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

CONVERSAZIONE.

(*Concluded from page* 153.)

The Chairman said he would like those present to examine the nucleus hive he now produced in order to see the improvements Mr. Sladen had made. That gentleman was working on correct scientific principles, and he (the chairman) had not the slightest doubt that his object would eventually be attained, although his apiary was situate in a district where there were certain defects. The company ought to read Mr. Sladen's paper which appeared in the B.B.J. some weeks ago and explained the nature and extent of his experiments. The construction of the hive before them was as follows, as described by Mr. Sladen himself:—

"I designed and tested this hive in Ripple Court Apiary last year, and the results were so satisfactory that I have decided to employ a large number of them during the coming season. Its chief feature is the *frames*, which, when extended, are perfectly interchangeable with the B.B.K.A. standard and will fit all ordinary hives, but when folded each frame is converted into two correctly-spaced half-frames, making ideal combs for the fertilisation of a queen. With these folding frames forming the nuclei, searching for the queen-bee and uniting nuclei together or to queenless colonies in ordinary hives are very simple operations. Other features of the hive are: (1) the side-walk feeder, which is filled by means of a funnel or teapot; (2) the projecting nail-points on the bottom of the central division board, which automatically fasten it to the floor, thus preventing the bees of one nucleus getting into the other nucleus when the hive is being moved; and (3) a very useful part which I call the 'ventilator.' This is placed over the frames with a sheet of straining canvas under it in forming the nucleus, and for travelling, in which case it is fastened on with screws and the lid is placed under the hive with a wedge so as to cover the flight-holes. The nuclei are formed by confining bees on the combs without eggs or unsealed brood from midday until sundown and running virgins in about 5 p.m. in the manner explained in my article in the B.B.J., vol. xxxiv., page 113. A nucleus colony has been successfully wintered in one of these hives. The hive and frames have now been placed on the market."

After the contrivances had been examined and handed round for the inspection of those who could not approach near to the table, the Chairman said that their two honoured guests (the Rev. Mr. Dummelow and Mr. Bridgwater) were now anxious to depart, and as he felt that the proceedings of the Conversazione had been rather too technical for their appreciation, he would now invite Mr. Dummelow to say a few words.

The Rev. J. R. Dummelow said that as a Renter Warden (he hoped to be Master some day) he realised that the B.B.K.A. had done the Wax Chandlers' Company a great honour in electing their Master for the time being as President of the Association. He could assure them that this high compliment would be greatly appreciated by their members, and much as he had felt it before he came to that meeting, it was still further enhanced by what he had seen and heard. He had received some information from a member of their Council, Mr. W. H. Harris, who was a neighbour of his, and, as they all knew, took great interest in apiculture and the work carried on by their Association for the benefit of the bee-industry; and the whole discussion of that evening enabled him to understand the great value of such a society in promoting the advancement of bee-keeping and the production of honey in England. The Guild he represented was called an Ancient and Worshipful Company, and perhaps it had some claim thereto, for it dated back to the days of Richard II., and there were evidences that their craft existed in almost prehistoric times. He was sure that his Company would, in a humble way, if ever it saw a chance, do its best to forward the interests of the Association, and he trusted they might have the opportunity of showing a little of that hospitality to their bee-keeping friends for which the City was famous. (Cheers.)

Mr. Bridgwater also desired to express his thanks on behalf of the Master of the Wax Chandlers' Company as well as the other members, who were much gratified at the happy idea of Mr. Weston that they should attach themselves to the B.B.K.A. They had always regretted, since he belonged to this old Guild, that they had not any institution or other body to attach themselves to in connection with the old craft represented by the Company; but at the same time he was a little doubtful when Mr. Weston's letter arrived as to what response would be made. Nevertheless he felt certain the members would advocate that they should do something for the Bee-keepers' Association, and in case the request had proved a failure, he himself was prepared to ask the B.B.K.A. to put the Master on the Committee. But when he placed

the invitation before the Company it was warmly reciprocated, and they all agreed that they would do what was asked by Mr. Weston, viz., "beg the Master's consent to become President," to which office he had been elected that day. He (Mr. Bridgwater) was not a countryman by birth, but he was so in heart, and he held that everyone living in the country ought to keep bees. The scientific part of it must be very absorbing, he thought, but he confessed himself perfectly bewildered by the questions of "black brood" and "foul brood," and did not know even now that he had very much knowledge as to which was which, nor did he think his Company would be able to help much towards the solution of so difficult a problem. (Laughter.) He had heard a good deal that evening about two contending bacilli of which bee-keepers had heard much, and he was interested in listening to the scientific discussion on that subject: but when Mr. Till came in with his "honey-pot," and alluded to what they of the Company had done in becoming patrons, his words opened up many thoughts, and one became inclined to be poetic as regarded the Wax Chandlers' Guild. But, after all, this Guild was not entirely useless; it had a good many charities on its list; and if it was not actually as useful as it would like to be, the new departure of that day awoke a vista of thought, and he hoped would lead them to take inspiration from the activity of the bees, with which they were now allied. He hoped it would not be unreasonable to expect that in the future they would all be as friends sealed with wax and sweetened with honey. (Cheers.)

Mr. Till was sure that the meeting would acknowledge with gratefulness the sympathetic speeches of their two guests. Possibly a very useful work might be done by the Wax Chandlers' Company in relation to the supply of wax. It was a most difficult thing to obtain pure wax now. There was plenty of wax offered at 1½d. or 2d. per pound, but good beeswax was worth 1s. 6d. per pound. The Company might very usefully turn its attention to this question of supplying pure beeswax. Possibly it had done so.

Mr. Bridgwater replied that he would lay the subject before the Company. The old Normansell Cup to which allusion had been made would probably be an agreeable sight to bee-keepers. It was engraved all round, and therefore a photograph for insertion in the BEE JOURNAL would obviously not convey a full impression of it, but a rubbing of the inscriptions might be obtained and a drawing made which would suit the purpose.

After the visitors had gone, Mr. Willard said that, seeing that was a special meeting, and the Association was starting on new ground, there was one fact worthy of mention in connection with bee-keeping that had been overlooked. They had recognised how important wax and honey were, but he thought it ought not to go forth from that assembly that the value of bees was summed up in those two factors. Apart from them, it would be a veritable calamity if all the bees were moved out of the country to-morrow. The loss of wax and honey would be a small matter in comparison with the loss to Nature of their services in the fertilisation of fruit and other trees and seeds and the products of the earth generally. Bee-keepers ought therefore to lay special stress on the great benefit—he might say the national benefit—that apiculture conferred on this country. (Cheers.)

Mr. Reid showed a little apparatus that he had used in his apiary for some time as a drone-excluder. Of course there were a great many drone-excluders on the market, but they did not all work satisfactorily. His contrivance was a simple little thing, made chiefly of slips of glass arranged at certain distances apart, something after the manner of a Venetian blind, by means of which the drones could pass out, and being unable to re-enter the hive by the usual doorway, they clustered round on the alighting-board, and then the whole lot of drones could be removed; or if they went into another hive, the bees would admit them, while they would not admit workers. When the virgin queens were ready for their marital flights, the drone-excluder could be put on such of his hives as the bee-keeper did not want to breed from. Sometimes there were too many drones in a hive, and as they were only honey-eaters, and not producers, the fact must be more or less taken into account.

Mr. Reid's invention was passed round for inspection of the members generally.

This concluded the proceedings of the meeting, and

Mr. Weston moved a hearty vote of thanks to the Chairman for his intensely interesting lecture on the diseases of bees, and expressed the pleasure he felt in common with all present that Mr. Cowan was able to attend and show his never-failing interest in bees and bee-keeping. The motion was seconded, and carried amid cheers.

The Chairman in acknowledging the compliment said it was always a pleasure to be with his fellow-workers in the cause and to do his best to forward the interests of the Association.

ERRATA.—In the Chairman's remarks on page 132 (first column), in ninth line for "associations" read *stations*; and in thirty-fourth line, for "surplus" read *deficit*.

MONTHLY MEETING.

The monthly meeting of the Council was held on Thursday, 18th inst., at 105, Jermyn Street, S.W., Mr. H. C. Todd (President) occupying the chair. There were also present Miss Gayton, Mr. T. W. Cowan, Mr. R. T. Andrews, Mr. T. Bevan, Mr. W. Broughton Carr, Mr. E. Garcke, Mr. H. Jonas, Mr. J. B. Lamb, Mr. W. F. Reid, Mr. E. Walker, Mr. T. I. Weston, and the secretary. Apologies for inability to attend were read from Dr. Elliot and Mr. A. G. Pugh.

The minutes of the previous meeting were read and confirmed.

Three new members were elected, viz.: Miss B. Lamothe, 109, Ladbroke Road, Holland Park, W.; Mr. Geo. W. Bullamore, Albury, Much Hadham, Herts; and Mr. A. G. Seaman, The Narrows, Altrincham.

Mr. Weston presented the Finance Committee's report, which was duly approved.

The following were elected to serve as the Finance Committee for the ensuing year, viz.: Messrs. T. W. Cowan, T. Bevan, W. B. Carr, E. Garcke, H. Jonas, E. D. Till, E. Walker, and Dr. Elliot.

The secretary made a statement in regard to the forthcoming first-class examination, to be held at 12, Hanover Square, on Thursday, May 16, the arrangements being confirmed.

Nominations were made of judges to officiate at the Grocers' and Confectioners' Exhibitions, as also at the Dairy Show, for approval by the societies concerned. At the last-named show it is proposed to add to the schedule a class for six sections of comb heather-honey, with sums of £1, 15s., and 10s. as first, second, and third prizes respectively.

The next meeting of the Council will be held on Thursday, May 16.

SOMERSETSHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of the above association was held in Bristol, when a goodly company assembled, including the Rev. and Mrs. Carpenter, Mr. and Mrs. Belsten, Mr. and Mrs. Jas. Brown, Mr. and Mrs. L. E. Snelgrove, Mr. and Mrs. G. W. Kirby, Misses Shepherd, Robinson, and Hardwicke, Messrs. H. F. Jolly, J. W. Brewer, W. A. Withycombe, S. Jordan, Lang, P. Rigg, W. H. Pretty, J. Coates, Rowe, B. J. Over, F. W. Beamish, C. Calvert, and others.

After partaking of light refreshments the business portion of the proceedings opened under the presidency of Mr. Herbert F. Jolly, who referred to the altered status of the society, saying that it had entered upon an era of increased prosperity. Owing to having adopted Somerset as their home, they were losing several members of the Council who had done good work in the past. On the other hand, they had to extend their association into hitherto untapped districts. This would necessitate the formation of smaller district branches. There was a desire that there should be more frequent meetings and discussions, and the question of subscriptions had to be considered.

According to the annual report of the association, read by Mr. L. E. Snelgrove (hon. sec. and treasurer), the work of the past year had been one of success and progress. Beginning with a membership of about fifty, it had now reached nearly one hundred, and the cash turnover had been more than doubled. The annual show, held at Clevedon on August 9, was a record success, both in the number and quality of the exhibits. Great satisfaction was expressed at the result of the negotiations with the County Council, by means of which experts were engaged to give evening lectures and demonstrations on bee-keeping at fifteen places in the county, and these had been very satisfactory. Local secretaries had been appointed in several districts, and more were being arranged for. The report and balance-sheet were adopted and passed.

The Hon. Sec., in proposing the officers for 1907, mentioned that the chairman of the B.B.K.A., Mr. T. W. Cowan, had now become a resident of Taunton, and was willing to assist the association. This announcement was received with cheers, and Mr. Cowan was elected a vice-president of the association. The election of officers then took place. The president (Lady Smythe) and vice-presidents were re-elected, with the addition of Mr. Cowan. The executive committee was also re-elected, with the addition of Messrs. Withycombe, Over, Lang, and Maynard.

L. E. SNELGROVE, Hon. Sec. and Treasurer.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[6682.] A spell of cold weather has been followed by a full day's rain, and as I write (21st) the bees have had a grand

day amid the fruit trees, which are a mass of bloom, as are also the wild cherry trees in the woods. The fields and hedgerows are following suit with plenteous buds of blossoming bee-forage; then will follow the hawthorn, so that the bee-man's prospects are promising.

Bee-pests are still with us, the number of queen wasps being even more numerous than last year. I killed sixty queen wasps found in hive-roofs on visiting my out-apiary a week ago. The previous fortnight, having been warm and sunny, had roused them from their winter torpor; then the colder weather had, I suppose, driven them to shelter where they could find it on the dry, warm roofs of stocked hives, till more propitious weather prevails. I also killed thirty-four queen wasps on a couple of evenings among the hives at home-apiary.

Improving the Male Gender of Apis mellifica.—If my memory serves me aright, some ten years ago our American friends established an apiary for breeding bees on an island about five miles from the mainland, and it was found that a few of the bees occasionally reached even that distant location. If that is so, I fear even Windsor Great Park would not be large enough to ensure mating with the particular drones one wishes to be used for the purpose. So long as the mating of queens is performed in the open air, it is, in my opinion, beyond control. The map of the whole flower garden of England will prove that it is futile to endeavour to restrict the mating of queens. When we can confine queens within a given space, and then liberate our hand-picked drones within the confined area, we may feel that we are within measurable distance of attaining our desire. For myself, I am quite satisfied with my own strain of English bees. Year after year they prove their qualities, and year after year I receive good characters of the colonies I supply to others. I am content. Nor do I believe that bees have deteriorated since England formed part of the continent of Europe.—W. Woodley, Beedon, Newbury.

BREEDING BEES BY SELECTION.

MR. F. W. L. SLADEN'S VIEWS.

[6683.] I have read Mr. T. I. Weston's interesting paper in the current B.B.J. (page 151). In my opinion it is impracticable to breed bees by selection in an isolated apiary or group of apiaries in this country as suggested. Such apiaries must be in a good honey-producing district, and I do not believe that such a district, containing no bees, exists anywhere in this country, or that it would be practicable to clear all unselected bees out of such a district. A more feasible plan would be to make the selections of parents and to breed queens and drones from them in a good honey-producing district, and then remove the unfertilised queens and drones in suitable nuclei to an isolated spot for mating.

Thinking that Dungeness, which is on a promontory and reached only by a beach about two miles wide, might be a favourable spot for such an experiment, I last year wrote to the keeper of Dungeness Lighthouse about it, and he kindly promised to allow me to place some nuclei in an adjoining garden, but at the same time he informed me that one of his assistants kept bees. Probably a more favourable spot for such an experiment is the island of Herm, one of the Channel Islands. These islands enjoy more sunshine than any part of Great Britain, and their summer temperature is higher than that of any islands round our coasts. Some interesting notes on the occurrence of honey-bees in Herm were given by Mr. E. D. Marquand in the *Entomologist's Monthly Magazine* for November, 1904. While collecting insects every day during three weeks in April and May, 1904, the last week ending on June 4, Mr. Marquand was struck by "the entire absence of hive-bees on the island," but on visiting Herm on August 8 for three days, he says: "We found them spread all over the island . . . not nearly so numerous as in other places where hive-bees occur, but we probably saw altogether several scores during the three days. The Herm people tell me that, so far as they know, no one has ever kept bees on the island. The shortest distance across the water from Guernsey to Herm would be rather under three miles." Mr. Marquand goes on to say that his belief was that "these bees formed part of a swarm that had flown over from Guernsey, the bulk of the swarm having perhaps perished in the sea." However, having noticed that a rise in temperature considerably extends the distance from the hives to which bees will forage, I should be inclined to think it possible that the true explanation of Mr. Marquand's observations may be that in the low temperatures of spring Herm is inaccessible, but in the high temperatures of summer is accessible to bees living in Guernsey. As Mr. Weston thoughtfully suggests in his paper, the flight of drones may not be to so great a distance as that of workers, but on the other hand it may sometimes be greater, for we know very little about the matter.

Theoretically, selection by isolation is perfect, but in practice there are great difficulties in the way of it. However, there is another method of breeding by selection, namely, "selection by colour."

This method, as outlined in my paper in the B.B.J., vol. xxxiv., page 132, and further described in the B.B.J. for January 17 this year, seems to be very hopeful, and appears to be working most satisfactorily in my apiary. By breeding a variety of bright yellow bees and then mating them in a district where only black bees are kept—there are many such districts in this country—one can, without isolation, select the queens that have been fertilised by yellow drones from those fertilised by black drones by the colour of the workers produced by them, and one can breed by selection in this way for the improvement of any character. I believe that the difficulty of drone-selection can be satisfactorily overcome by this method of colour-selection combined with as much isolation as is practicable.

Of course black bees cannot be bred by colour-selection in this country, and many bee-keepers (including Mr. Weston) would no doubt like to see pure English black bees bred by selection, but Mr. Weston says (and I agree) that "healthiness should be one of the chief objects of breeding bees by selection." Now breeders of all kinds of animals and plants have found that long in-breeding of a single variety tends to diminish disease-resisting power, and that it is by crossing varieties that vigour and disease-resisting power are increased. There is much evidence to show that in-bred English bees are particularly susceptible to disease, and that cross-breeding them with other varieties has increased their vigour and disease-resisting power. Old readers of the B.B.J. will remember that Mr. Wm. Loveday's work of improving pure English bees was stopped by disease. I think it not at all unlikely that similar efforts might sooner or later meet with the same fate; indeed, in any attempt at breeding the English bee by selection for improvement I consider it essential to begin by crossing it with a different race or variety.

I should be very glad to hear from any bee-keeper in Guernsey or elsewhere who would be willing to co-operate with me in taking some queens and drones of my "British Golden" bees (1907 selection) to Herm to be mated. Presuming (1) that there are no colonies of bees in Herm, and (2) that the bees in the adjoining part of Guernsey are black, such an experiment would be likely to show, in the colour of the workers bred from the queens mated, if isolation to the extent of about three miles is sufficient to secure pure mating, besides supplying useful information on the subject of the inheritance of colour in bees.—F. W. L. Sladen, Ripple Court Apiary, near Dover, April 19.

MARKETING HONEY.

[6684.] A question of growing importance respecting the market for honey, which is apparently very much overstocked, is, Cannot something be done to increase the sale and consumption of honey? It is useless to quibble about the continual increase in the numbers of bee-keepers; so long as people advertise the supposed enormous yields from single hives, and make honey-producing appear to realise over 100 per cent., so long will the increase in bee-keepers continue. This increase does good in many ways: it enables the maker of appliances to increase his trade and reduce the prices, so benefiting the user. It also increases the funds of the associations, and enables them to carry on their work.

The only way to overcome the difficulty appears to me for the B.B.K.A. to take the matter up. Being the parent association, it is the only one which can do the work. It has done much to increase the numbers of bee-keepers (a movement which in the opinion of many commercial bee-keepers is a mistake); let it now give them a market for their produce. There is not the least doubt that the supply exceeds the demand, otherwise prices would not be continually dropping and so much honey be on hand, as appears from the advertisements in the B.B.J.

Mr. W. Woodley mentioned some time ago that on offering honey to old customers he was told by them that they could buy far cheaper elsewhere. His words were:—"Only last week a large London firm, with whom I have done business for some years, wrote to me for a sample. I sent them my best, asking 56s. per cwt., carriage paid. On waiting a week and getting no reply, I wrote again, only to receive the reply, 'They had bought excellent honey at far less money.'" This is only one case out of hundreds. I could fill a page with my own similar experiences. Now what I would suggest is that the B.B.K.A. set apart a certain sum per annum for the advertising of honey, and that it send out so many circulars, such as Rev. Banks', to householders in residential districts, letting them know. Hundreds of shopkeepers have never heard of the B.B.J., and do not know where to buy honey if they would. They would also see what an enormous profit there is in retailing honey, and would be induced to try it. Of course, the B.B.K.A. will say, "We are not very well off financially, so where are the funds for sending out these circulars, &c., to come from?" Well, the county associations must help. Increase the affiliation fee to £2 2s.: the individual association will not feel the extra £1 1s. I write this with the hope of raising a discussion upon the subject, as it is high time something was done, or the

question which has recently been asked, "Will bee-keeping cease to pay?" will easily be answered in the negative. It is of little import to those who only keep one or two stocks for pleasure, but to the man who at any rate wishes to add to his income it is very serious.—W. E. E. CHARTER, Tattingstone, Ipswich.

THE LATE SPRING.

HONEY GATHERED AND SEALED IN APRIL.

[6685.] In going through my hives the week before last for "spring cleaning," three lots that I had fed with a case of candy each caused me a considerable amount of surprise. The bees had consumed the candy, and actually filled the cases with new honey in comb and sealed it over! While at the meeting of Kent bee-keepers at Eynsford on the 6th inst. I mentioned the incident to other bee-keepers present, who seemed rather to doubt my word, as they inquired why I had not brought one of the candy-cases with me. As evidence of the genuineness of my statement, I send you herewith one of the cases for your examination.

On Saturday last, in going through a hive on which a shallow-frame crate had been left through the winter, I found the three centre combs filled with new honey, and one of the three nearly capped over. This shows that the bees have been making most of the fine weather we have had, although the spring is so much later than usual that the plum, cherry, and apple blooms in the orchards are not yet fully developed.—GEORGE COLE, Paddock Wood, Kent, April 16.

[There is no doubt about the fact of the candy-box being occupied by two small combs of sealed honey of this season's gathering.—EDS.]

BEE-KEEPERS' ASSOCIATIONS.

ARE THEY FORMED ON THE RIGHT LINES?

[6686.] In view of the congested state of the honey market, is it not desirable that the efforts of bee-keepers' associations should be directed to advertising the virtues and uses of honey rather than to energetically stimulating competition by increasing the number of honey-producers? There was a time when this policy of stimulating production was the right thing; but I would ask: Have we not reached a stage when a change in this policy is not only desirable, but almost necessary? A certain large county association finds its members complaining that the local price is reduced to a minimum, and when the executive committee talk of sending its products to the large centres they find there also a slump in prices, so that the proposed remedy will not help them.

What is to my mind urgently needed is to stimulate consumption. Let us be practical. Bee-keepers cannot keep bees entirely for the fun of the thing—that is, if they are not rich, and very few of us are troubled with too much spare cash.

If we do advertise the virtues of honey, we must take care that home-grown honey reaps the advantage. We must endeavour to get the Government to see that foreign honey is marked as such. The market is largely congested because people know so little about honey; in fact, there are thousands who never taste it, while others who try the foreign product never buy any honey afterwards, because they found it flavourless. Let us stand up for increased consumption first, and the supply will then take care of itself. I consider we also need to encourage the use of native bees. According to my experience, they are as good as any. Without harbouring animosity against the foreigner, it is our plain duty to develop our own country first. If we can produce a superior article, why should we go abroad for something worse? Finally, let us use ordinary common-sense in our bee-keeping affairs. I believe in developing the £ s. d. aspect of the matter. If that be done, the other policy is not required at this stage of bee-keeping.—W. J. FARMER, Redruth.

WINTERING BEES WITH SUPERS ON.

[6687.] I am much interested in the recommendation of your correspondent Mr. J. M. Ellis (6660, page 124) to winter stocks with a stored shallow-super over the brood-box, and should like to try it. But I do not quite see how it could be got to work satisfactorily. If the excluder is left on, would not the bees tend to desert the queen by clustering in the super? If, on the other hand, no excluder were used, the queen would surely breed in the super. Would your correspondent kindly explain how these difficulties are to be got over?—S. K. SAXELBY, Birmingham.

SIZE OF BROOD-FRAMES.

[6688.] Will you please allow me through the pages of our journal to ask bee-keepers who are working with a larger brood-frame than the "Standard," *in a clover district*, if they will kindly correspond with me with reference to size of frame they use, and how many frames per brood-nest; also furnish a short statement of average results and say what their opinion is re value of a large frame (if any) over the "Standard"?—J. HUXLEY, Higher Kinnerton, Chester.

KENT BEE-KEEPERS' ASSOCIATION.

Mr. E. D. Till, who is labouring so assiduously in promoting the newly-formed Kent B.K.A., asks us to say that a meeting of the provisional council of the K.B.K.A. will be held, by kind permission, at the residence of Dr. Giddings, Hillworth, Beckenham, on Saturday, 27th inst., at 5 p.m., to discuss the association's future programme.

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

Saving the Bees.—The idea promulgated in the *American Bee Journal* (page 229) by Mr. C. P. Dadant is not exactly a new one, and reference has already been made to it in these columns (see "Feeding Sweetened Water," September, 1905). Many sincere advocates of non-interference hold, on the contrary, that spring feeding is a waste of bee-life and an addition to their toil. Indiscriminately gone about, it undoubtedly is, but, if judiciously carried on, the contrary may hold good. Mr. Dadant begins by pointing out that honey preserved through the winter is thick, and requires to be diluted before it can be turned into healthy larval food. This entails a very large number of compulsory visits to the nearest water, and these journeys are often carried out in weather unsuitable for bees' flight. The cold day chills them, so does the cold water, and, owing to the consequent weakness, many are drowned or lost on the way home. Later in the season nectar from the flowers is of the proper consistency, and requires no dilution. To attain this in early spring, "Many of our practical apiarists save their bees the trouble of transporting this cold water by giving them a small amount of sufficiently liquid food to fill the requirements. This food is warm when given. Just think of the difference between having to go out in the cold to get water—cold water—and finding this water in the hive, warm and sweet enough to serve the purpose for which it is intended." This phase of spring stimulation requires mature deliberation.

Weak Colonies in Spring.—Don't be too ready to unite these. Dr. Millar quotes as follows from his Record Book: "Examined hives on April 20. The number of combs having brood in them, and the number of sections obtained in harvest were as follows: 4 combs, 232 sections; 5, 186; 2, 219; 4, 172; 5, 240; 3, 184. It will be noted that under the rule of uniting weaklings the hives with two and three frames would have been put together, but as units they gave respectively 219 and 184 sections." It, therefore, takes a little discrimination to determine accurately what is really a weak colony in spring. But, another thought strikes me, so much depends on the nature of the season. I could get more strong colonies this year at the end of April than last year at the end of May. Yet I am not positive that I shall have more strong ones at the beginning of August this year!

Will Bee-keeping Cease to Pay?—Our Canadian cousins say "Yes!" and "No!" just like ourselves! First comes the startling statement that "there are nine failures for every one success." Apparently many over there believe in "getting a colony of bees and getting rich quick." They only see one side of the subject, and fail to grasp the fundamental fact that, like any other business or profession, it must be understood to ensure success. A poet may be "born, not made," but a bee-keeper must rise step by step if he is to attain to the summit of the Peak of Perfection. The Canadian Bee Conference, on the motion of Mr. Holterman, resolved as follows: "That we, as bee-keepers, would give all encouragement to men to enter the bee-keeping business; but in our opinion it is not well to engage in such unless the parties going into it are prepared to give it the same study, care, and attention that they would to other branches of agriculture in order to succeed."

"Blue" Blood.—*Gleanings*, page 413, contains a "Plea for a Standard of Perfection and for more Systematic Breeding," from which I make a short extract to show that what Mr. Weston urged on British bee-keepers is also engaging the attention of Americans: "Probably in almost every line of live stock found in the class of domestic animals we have ideals mapped out, and then make an effort to breed to that type. In this way we secure some, if not all, of our breeds in cattle and sheep. In bees we have not so far been able to control the drone parentage, or if it has been done, as some think, it has not been recognised to any extent. The Governments of our countries should take this up, as the work is too expensive for individuals. But have we agreed on a definite type? There is no use in beginning with anything less than the best strains of the best varieties." And then the writer proceeds to air his conceptions of what goes to constitute this "blue" blood, and straightway flounders.

"Made in Germany."—"The marking of a queen with paint, as is practised by some bee-keepers in Germany, has developed the fact that sometimes a prime swarm issues with a virgin queen, while the first after-swarm may be led out by the old queen." Strange, if true, that in America, where they clip their queens so extensively, no one has observed the phenomenon.

Bee-keeping for Women.—Many ladies make a success of bee-keeping. A Miss Trevorrow read an encouraging paper on the subject at the last Ontario Convention. In her early experience five colonies gave her 928 lb. surplus, or all but 200 lb. each. Last spring forty colonies gave 1,600 lb. of surplus. She sums up: "Bee-keeping may be looked upon as a healthy occupation for women in comparison with many of the avocations to which she is called, wherein exercise, fresh air, and sunshine are denied her. The possibility is that if woman, with her natural house-cleaning proclivities, should invade the realm of bee-keeping, this branch would be so well attended to that the problem of foul brood might be solved. Careful attention to detail is imperative, but many points are calculated to make the pursuit an attractive, enjoyable, and profitable one for women."

Queries and Replies.

[3500.] *Queen Cast Out in April.*—Would you kindly say in the B.B.J. whether anything is wrong with one of my hives? It is stocked with bees taken from an old broken-down hive I bought last year. The bees were placed on full sheets of foundation, but I am unable to look at the hives more than twice a week, and yesterday I saw two dead perfectly-formed grubs thrown out. I therefore ask:—1. Would this be through foul brood, or would they be drone-larvæ cast out owing to the cold weather? Finding what I took to be robbing going on, I partly closed the entrances of all of the hives, which are working well and carrying in pollen very fast. 2. Did I do right in reducing the width of entrances? To another hive found short of stores in February last I gave a frame of food from an over-supplied stock, and, on examining soon after to see if the food was taken, I found that the bees had eaten a great hole quite through the comb in this frame and also in three others. 3. What is the cause of the bees doing this, and will the bees mend the holes in foundation, or should I put in fresh sheets? 4. Could you tell me the best way to get bees out to British Columbia? I ask this question because I may be going out there next year, and, if so, I shall ask you to send your valuable journal out to me. Thanking you for last advice and in advance for replies to the above, I send name for reference.—H. A. M., Cringleford.

Reply.—1. There is nothing to cause alarm in a couple of grubs being cast out of hives at this season. 2. Quite right. 3. It is difficult to judge why the bees did this without inspecting the combs, unless it was the giving sealed food fresh from another stock that demoralised them somewhat. There is, however, no need for doing anything at all under the circumstances. 4. When your decision is made with regard to British Columbia, we will gladly do what we can to help you with the desired information.

[3501.] *Granulated Honey for Feeding Swarms.*—I shall be much obliged if you will answer the following questions in the B.B.J. Last week I chose a fine sunny day to examine my small apiary. I found an ample supply of honey in all the hives, but in one there was no trace of brood or eggs as in the others, which made me think the stock must be queenless. The next day I found bees from the other hives going in and out of the one in question, but there was no fighting. So I at once opened up the hive, and found the bees clustered at the sides and robbers well at work. I therefore took away six frames with lots of honey in them, and in the evening united the remaining bees with another stock. On examining the combs I found a deal of the honey was candied. I shall be grateful if you will tell me:—1. If I give these combs to the first swarm I have this year, will it do harm in any way, as the combs are well drawn out and in good condition otherwise? I thought it would be well to set up a swarm on them, but finding candied honey there, I would like to have your opinion (2) as to whether the heat of summer and the bees will liquefy the honey again?—W. M., Dorset.

Reply.—1. We do not advise giving combs of candied honey to swarms; they would do more harm than good. 2. No, the honey will remain in granulated form through the hottest summer without any approach to liquefying, unless exposed in a solar extractor.

[3502.] *Giving Supers in April.*—Will you kindly tell me in B.B.J. if it is too early to put on a super of shallow-frames? To-day when looking into two of my hives (both strong stocks) I found large pieces of new comb built on top of the frames where the candy had been, and many cells full of thick, clear, new honey. The bees have been very busy on the spring flowers, and now the pear and cherry blossom is nearly out—in some cases quite. I wonder if I put on a rack of shallow-frames of foundation and covered all up very warmly if the bees would employ themselves in drawing them out. I gave each stock a stimulative feeder, as the weather is damp just now and rather chilly at nights. If you think the supers would be right, I could put the feeder on top. I send name, &c., and sign—Heather, Sidmouth, April 15.

Reply.—There is no reason why the box of shallow-frames should not be given at

once in the present state of the weather. We hear of candy-boxes being filled with new honey in Kent and other places. Do not place feeders on while bees are storing honey. It is well enough to do this to help comb-building, but bees are now sealing over honey of the current year.

Bee Shows to Come.

May 28 to 31, at Maidenhead (Berkshire B.K.A.).—Show of Honey in connection with the Annual Exhibition of the Royal Counties Agricultural Society. Over £20 in prizes. Schedules from D. W. Bishop-Ackerman, Hon. Sec. Berks. B.K.A., 161, King's-road, Reading. **Entries close May 1.**

June 25 to 29, at Lincoln (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Special classes for the Lincs. B.K.A. only. Schedules from E. H. Young, Sec. B.B.K.A., 12, Hanover Square, London. **Entries close May 28.** Schedules and particulars for Lincs. B.K.A. classes from R. Godson, Hon. Sec. Lincs. B.K.A., Tothill, Alford.

July 17 and 18, at Burton-on-Trent.—Honey Show of the Staffordshire B.K.A. Special prizes, including five Open Classes. Prizes, 20s., 10s., and 5s. Single 1 lb. Jar and Section (entry free). Schedules from Joseph Tinsley, Expert, Chebsey, near Stafford. **Entries close June 22.**

Notices to Correspondents.

M. K. (Kilmarnock, N.B.).—*Bees Visiting Beer-shop Grocery Stores.*—We are sorry for the disastrous consequences to your bees through their having access to places where sugar is kept in quantity: but really we do not see in what way we can help in preventing the mischief, either with regard to the beer or the exposed sugar. If your neighbour takes steps to destroy the bees as a nuisance, we cannot tell how to stop him.

Bee-keeper (Sittingbourne).—*Foul Brood Troubles.*—We fear the disease had too firm a hold among your bees for much hope of curing it under the circumstances. It would certainly have been better to burn the lot when the condition of the bees had got so bad. Those who—like yourself—are inexperienced at bee-work, and know nothing of the nature of foul brood, rarely succeed in carrying out the instructions given in the "Guide Book." The fact of your feeding up the diseased bees after removal from the combs "with medicated syrup got at a chemist's" makes one wonder what sort of medicated syrup was used; but very little reliance can be placed on the efficacy of such. As a farm labourer hoping to add to your income from the bees, it would be very unwise to destroy your hives, bees, and appliances because of the reappearance of foul brood. Our advice is to exercise the greatest watchfulness, and continue the use of remedies, always bearing in mind to follow out to the letter the instructions given in the "Guide Book."

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

2,500 CHAPMAN HONEY PLANTS (seedlings), 25 for 7d., 2s. per 100.—LINDSAY, Middleton, Kirkby Lonsdale, Westmorland. y 16

WHITE WYANDOTTE EGGS, prize winning strain, 2s. 6d. sitting.—H. BASTOW, Howden, Yorkshire. y 14

GOOD STOCKS, in Straw Skeps, 12s. 6d., 13s. 6d.; ditto, in Frame Hives, 25s. to 35s. each; Standard Frames, 1906 Queens, guaranteed healthy. Exchange Sections or Extracted Honey.—W. WOODS, Normandy, Guildford. y 15

FOR SALE, PURE ENGLISH HONEY, light colour; sample 3d.—LAW, Cuckoo, Ashwell, Herts. y 19

BOOKING FEW MAY AND JUNE SWARMS, in Skeps, splendid Native Strain, 10s. and 12s. each.—L. MEASURES, Tilbrook Grange, Kimbolton. y 18

WANTED, "W.B.C." HIVE, good condition. State lowest price and particulars.—BASFORD, 14, Stretton-road, Leicester. y 17

27TH YEAR.—SWARMS with 1905 Queens now booked, May 12s. 6d., June 10s. 6d.; Natural Swarms only are sent from this Apiary, guaranteed healthy and safe delivery.—C. H. HAYNES, Hanley Castle, Worcester. y 20

WANTED, STOCK OF BEES, Irish Terrier cross smart dog. Part exchange if desired.—BELL, 25, Silverleigh-road, Croydon. y 21

STRONG, HEALTHY STOCK, in good Hive, 25s.; ditto, in "Wells," 35s.; Geared Extractor, cost 35s., as new, 25s.—READ, Farm, Wembley. y 22

QUEENS.—English are undoubtedly best. See cover advertisement last week. By return post, 2s, 8d., guaranteed fertile.—CHARTER, Tattingstone, Ipswich. y 23

ITALIAN FIRST CROSS, best honey-gatherers, good-tempered; strong ten-frame Stocks, with last season's Queens, guaranteed healthy, this season's work, package free, 25s. each.—O. KNIGHT, Epney, Stonehouse, Glos. y 16

WANTED, Three Practical Bee-men to test my Non-Swarming System, which has proved successful for many years without a single failure, and is strictly secret. I shall charge nothing for my treatment this year. Price only as for ordinary Stocks. Write for price, &c., at once, as I have only three Stocks to spare this year; guaranteed healthy. Deposit System if preferred.—J. FAIRALL, Hellingly, Sussex. y 25

1S. FOR 50 Snow-white Split-top Sections, 4¼ by 4¼.—SEABROOK YOUNG, Crabbery-street, Stafford. y 24

CHAMPION "NEVER SWARM" HIVES, complete, the most practical Hive made, 20s.; "The Best," most practical Spring Feeder made, 1s. 6d., free; "Never Swarm" System, worth a guinea on each of your Stocks, 3½d., free; delicious flavoured Lime and Clover Honey, 6d. lb.; Sections, 8s. 6d. doz.—HARRIS, Wavendon, Bucks. x 86

TWO SKEPS HEALTHY BEES FOR SALE, 10s. 6d. each.—DARLINGTON, Charing, Kent. y 26

FINE LIGHT GRANULATED HONEY, full lb. Screw Jars 9s. doz., carriage paid for cash.—ILLINGWORTH, Cavendish-avenue, Cambridge. y 28

Special Prepaid Advertisements.—*Continued.*

HIVES, 7s. 6d., satisfaction guaranteed, for 10 Standard-frames, double-walled, Brood body, back and front, 18in. by 16in., 9in. lift, telescope roof and porch; also Hives, ditto, 18in. by 18in., with dummy, sliding entrance, 9s. 6d.; cash with order.—COX, manufacturer, Smallbrook-street, Birmingham. y 28

SPLENDID GRANULATED HONEY, chiefly from Limes, 2 60 lb., 4 30 lb. tins. Offers wanted.—HUDSON, Crane Hill, Ipswich. y 29

NATURAL SWARMS of my strain English Honey Bees, from 10 Framed Hives, May, 15s.; June, 13s.; safe arrival guaranteed, cash with order; Swarm-boxes to be returned, or charged 4s. —F. ALLEN, The Apiary, Westbourne, Sussex. y 13

QUEENS, Blacks, Golden-all-overs, Italians, by return; Carniolans booked full till May 10th; every Queen guaranteed satisfactory; Virgins of above ready June 1st; book now.—CRUADH Apiaries, Ballyvarra, co. Limerick. y 30

WILL BOOK ORDERS for 20 Swarms, May delivery.—CRUADH Apiaries, Ballyvarra, co. Limerick. y 31

QUEEN-BREEDING.—Mr. F. W. L. SLADEN has a vacancy for a pupil at Ripple Court Apiary, near Dover.

FOR SALE, English and Italian Bees, in Frame Hives.—THOS. HILL, Scotlands, Cannock-road, Wolverhampton. y 32

HEALTHY STOCKS FOR SALE, Bar-Frame Hives. Woodley's Strain, 1906 Queens, 21s. each.—S. BEATON, Gollanfield, Inverness-shire. y 32

FOR SALE, good Healthy Hive of Bees, 25s.—MR. S. ASQUITH, Fairfield Villas, Wetherby, Yorks. y 33

NEW HIVES, Sections, zinc, glass slides, straw Skep.—9, Bulwer-street, Breck-road, Liverpool. y 34

ORDERS BOOKED for GOOD TOMATO PLANTS, Comet, Up-to-Date, Holmes' Supreme, &c.—BURGESS, Wenden, Saffron Walden. y 35

MAKE A NOTE OF THIS. — When wanting plants, Cauliflower, Broccoli, Cabbage, Sprouts, Lettuce, &c., write BURGESS, Wenden, Saffron Walden. y 36

G. C. BURGESS is open to book Swarms of his prolific good-tempered and splendid-working strain of Bees, May 3s. per lb., June 2s. 6d. Remember these will be the first sold from my apiary.—EXPERT, Wenden, Saffron Walden. y 37

FINEST EXTRACTED HONEY, in 30-lb. tins, 15s. 6d.; 14 lb., 7s. 6d.; 1 lb. screw cap, 7s. 6d.; ½ lb. 4s. 6d.; ¼ lb., 3s. doz.—BURGESS, Wenden, Saffron Walden. y 38

200 SWARMS WANTED, 2s. 6d. lb. given, carriage paid to Welwyn; boxes supplied. —E. H. TAYLOR, Welwyn, Herts.

TO BE SOLD CHEAP, 3 Stocks of Bees, in good Hives, well painted and interlined with asbestos; also extra Hives, Frames, Sections, Geared Extractor, Honey Ripener and Strainer, Honey-jars, and other bee appliances; many quite new. Worth over £20; will sell for £8 the lot.—Particulars from M. HARDINGHAM, 49, Haydon Park-road, Wimbledon.

31ST YEAR, NUCLEI, 3 Frames brood Bees, and 1906 Queen, 12s. 6d.; case, 3s., or returned carriage paid.—ALSFORD, Expert, Haydon, Sherborne.

CHAPMAN HONEY PLANT SEED, 3d. per packet, post free; tall Tie-over lb. Jars, exact size, 1s. per dozen, in three or more dozen lots.—WOODLEY, Beedon, Newbury.

FINEST QUALITY LIGHT-COLOURED ENGLISH HONEY, in 7, 14, and 28 lb. tins; sample, 3d., post free.—C. DUNN-GARDNER, Fordham Abbey, near Soham, Cambs. y 9

FOR SALE, PURE LINCOLNSHIRE HONEY, in 1 lb. Glass Jars, 7s. 6d. per dozen, carriage paid on one dozen only.—W. PICKWORTH, Osbournby, near Falkingham, Lincs. y 11

Special Prepaid Advertisements.—*Continued.*

SPLENDID SECTIONS OF BEST HONEY. What offers?—Rev. A. R. RUNNELS-MOSS, Ladywood Vicarage, Birmingham. x 98

FOUNDATION STRETCHING PREVENTED by "Nondescript" device; better than wiring, every cell free for breeding; successful where tried. See Mr. Fraser's letter, "British Bee Journal," 7th March. Sample set, with directions, P.O., 1s. 1d.—W. PALMER, 174, Curzon-street, Netherfield, Nottingham. x 94

GOOD PAINTS, ready mixed, all colours, for Hives, Greenhouses, and general purposes, 3d. lb., in 7, 14, and 28 lb. lever-lid tins. Orders 50s. and upwards carriage paid.—W. O. JONES, Caerleon, Mon. x 89

SWARMS now booked, in rotation, May 12s. 6d., June 10s. 6d.—G. GILLETT, Prudential, Moreton-in-Marsh. x 95

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester. q 93

DUPLICATE "Bee Journals," bound and unbound, to exchange for bound volumes from 1889.—HERROD, Luton.

DOVETAILED "W. B. C." HIVES, painted, £1 each; slightly-used ones, 12s. 6d. and 15s. each; all complete, guaranteed free from any disease.—H. SWIFT, Churchdown, Cheltenham. x 73

HEALTHY STOCKS, in Standard Frame Hives, 21s. each.—REV. JARVIS, Coleford, Glos. x 69

DON'T FAIL to have one of my Hives before Swarms come; all Hives sent out are fitted with Frames and Sections with Starters, and painted Cottagers, 8s. 6d.; "W. B. C.," 15s.—RANSOME, Hellingly, Sussex. x 77

BOOKING ORDERS for SWARMS last week in May and June, at 10s., 12s. each, packed free. Order early.—HARRISON, Bee Farm, Middleton, Pickering. x 72

WANTED, 500 SWARMS, in May and June.—HERROD AND STEWART, Luton.

EGGS FOR HATCHING, from finest pens of utility birds: Black Minorcas, Brown Leghorns, White Leghorns, 2s. 6d. sitting, unfertiles replaced.—HARRISON, Bee Farm, Middleton, Pickering. x 41

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw cap jars, 7s. doz., 77s. gross; ½ lb. ditto, 4s. 6d. doz., 45s. gross; 14 oz. ditto, 6s. 6d. doz., 72s. gross; Honey in bulk, 48s. cwt.; pure breed sitting eggs, 4s., guaranteed.—TURNER BROS., Sandpit Poultry Farm, Croydon. w 65

WHITE ORPINGTONS and BLACK MINORCAS.—We have again some splendid pens of each variety, bred from exceptional layers and true to type; special price to brother bee-keepers. Eggs 3s. for 15, 10s. for 50; day old chicks, 6s. doz., £1 for 50; all carefully packed, carriage paid on two sittings.—J. HOUSEHAM, Huttoft, S.O., Lincolnshire. w 3

SITTINGS OF PURE WHITE Silver and Partridge Wyandotte Eggs, all from best laying strains: White and Silver, 2s. 6d. and 5s.; Partridge (from H. Wright's first prize Crystal Palace strain), 5s. and 10s.; Essex incubator, 50 eggs, self supply lamp, in perfect working order, 30s.; also Conqueror Hive (Simmins'), with 3 Section-racks and 300 Sections for same, 35s.—H. KEIGHLEY, Kirk Hammerton, York. v 71

QUEENS, Natives, Healthy Stock, reared 1906, ready for despatch, 5s.—O. KNIGHT, Epney, Stonehouse, Glos x 57

Editorial, Notices, &c.

REVIEWS.

Nature-study Postcards.—We have on several occasions alluded to these cards, sent out by the County Press, of Kensington, W. They have just issued two more of their sixpenny packets of instructive cards, one packet including facsimiles of six British trees in winter, the other of the boles of the same trees, each tree-form being accompanied by letterpress description. The current issues make the seventh and eighth, the previous ones comprising British ferns, leaves of trees and shrubs, and trees and grasses popularly and botanically named. For 4s. 6d. for the whole set lovers of trees and ferns can obtain a substantial instalment of Nature-study reproductions.

Allotments. By T. W. Sanders, F.L.S., F.R.H.S. (London: Agricultural and Horticultural Association. Price 1d.) —This is the eighth issue of "One and All" garden handbooks, edited by E. O. Greening, F.R.H.S. The author, Mr. Sanders, is able to give not only practical advice on allotments, but an interesting history of a most successful development which he was mainly instrumental in founding. The editor adds some detailed advice on "how to proceed." The booklet is well illustrated, and will be very useful.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of March, 1907, was £3,923.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

SOME GUESSES AFTER TRUTH.

[6689.] The old proverb has it that "Truth reposes at the bottom of a well." It is certain that at times it takes a lot of work to find it, and when found, as we fondly fancy, we discover too frequently that we have grasped but its shadow! Many points in bee-keeping seem to me but Guesses after Truth.

If there is one point in apiculture which has been preached more than any other it is that bees should be kept *quiet*. Any loud noise, concussion, or vibration, even the swish or sough of a wind-swept wood, was said of old to be hurtful. I personally have gone on believing this until it became almost an article of faith with me; but of late I have my doubts. It may be the truth, but not the whole truth. Let us try some guesses.

Bees near a railway station seem to get so accustomed to the noise, bustle, and confusion that they ignore it, and work away as if all were peace and quietness. Even the shunting of heavy wagons or the carting of huge lorries in close proximity apparently yields no evil consequences. They work away in perfect serenity even when the thunderous sound and earthquake vibrations of a colossal express train at the highest rate of speed pass within a short space of their domiciles.

Have any of you stood in front of some hives in the busy season when bees were working their hardest? In a short time, I guess, you would have to quit with several indignant Amazonian warriors buzzing mischievously about your ears. Have you, on the other hand, happened to be at a displenish sale where bees were put up to auction? A crowd of over a hundred, all interested in seeing the fun, press in with perfect impunity quite in the stream of busy workers. The bees fail to resent the strange intrusion, but dodge about until they secure a clear approach to their hives, which they enter peacefully.

A crowd of about one hundred and fifty school-teachers forming an apicultural class was recently brought right into the centre of a cluster of hives, the instructing professor assuring them that they could do so in perfect safety. Not only did they safely invade the bees' territory, but most discarded the veils with which they had been provided, and ended by arranging themselves in a group to be photographed, every one of them holding a comb of live bees. This experience is almost unique, but it is right in line with the foregoing.

An extensive bee-keeper and leading manufacturer winters his bees in a cellar right below his machine-shop, where daily a continuous whirr of machinery goes on, where heavy weights are lifted and lowered with both great noise and intense vibration, yet the bees accept the whole noise and confusion as a matter of course, and do not apparently suffer in any way from the effects. His explanation is that these sounds, being continuous, do not disturb the bees, whereas intermittent sounds, even if so gentle as those made by children playing, would

become a nuisance, if the bees were to experience them only now and again.

My conclusion, I think, in all these cases would be that bees accept the inevitable without worrying over it. Custom is second nature, and may it not be that they adapt themselves to their circumstances until familiarity breeds contempt? A landsman when he attains his "sea legs" gets accustomed to the pitching and rolling of the vessel. When we first set out to learn riding the bicycle all ditches had a special fascination for us; soon our wheel could be guided quite unconsciously. A countryman going to any of our large cities is confounded by the din, which his ears soon get attuned to ignore. Bees from habit get quite reconciled to a stream of pedestrians passing along a walk in close proximity to their hives when they might resent the intrusion of a single individual. All of us have seen this. My guess again is that in their wisdom they adapt themselves to circumstances.

Many points in the internal economy of the hive have to be accepted as a matter of faith, proof by sight being impossible. In a large measure many of our so-called facts are mere deductions or simple guesses after truth. One of these is the scent theory. Reasoning from the known to the unknown, we deduce what we call a fact. A strange queen placed in a dequeened hive is balled and killed. We scent the queen and the bees, and she is gratefully accepted as the new mother. We cage her in the hive so long that she acquires the scent of the colony we wish her to head, and without a murmur they adopt her when we and they liberate her from her temporary prison. We wish to unite two lots of bees, and by flouring them, or spraying them with a strong-smelling herb juice, they are brought to such a degree of equality that they peacefully amalgamate into one happy family. The knowledge of this fact is important to the apiarist, and he accepts it, even although it is but the fruits of a theory.

Truth is frequently blended with fiction. The ancients found it often impossible to separate the two. Thus the length of a bee's life was long a sore puzzle—and often yet we moderns have to guess after the truth. Butler wrote: "Bees are birds of a *year*." Purchas says they "lived *one and a quarter* years." Remnant gave them "*three* years." Aristotle "six or *seven* years at most." Pliny held "they never exceed *ten* years." Columella believed "strong bees live *twelve* years"; and finally Muffet generousheartedly gives them "*thirty* years"! Undoubtedly a good deal of the confusion arose by the various guessers confounding the length of a bee's life with the existence of the colony as a whole. It is only at a comparatively recent date that we have been able to make a more approximate guess than these ancients did. A black stock Italianised in the autumn contains black bees well on in June, showing that some of these blacks lived nearly *ten* months. On the contrary, if the introduction takes place in May, blacks will have almost all disappeared with September, proving that they have lived barely four months. In the height of the season a bee, however, may get worn out in as many weeks, for work, not age, wears out the bee.—**D. M. M., Banff.**

LENGTH OF DRONES' FLIGHT.

[6690.] May I thank our friends who have kindly taken notice of my paper on "Queen-rearing," and also, as bearing on the same subject, my question as to the length of flight of the drone-bee?

What we really need is more accurate knowledge, well-ascertained facts upon which we may safely build. Our best authority on the subject, Mr. Sladen, admits of the drones' flight "we know very little about the matter"; the other gentlemen who have as yet expressed an opinion on the subject all agree that the flight is not of wide extent, nor so wide as is usually supposed. It would be helpful to know if, among the several scores of bees seen by Mr. Marquand on the island of Herm during his visit in August, 1904, he had noticed a drone; if he did, it would prove that a drone would travel three miles. The reference Mr. Sladen makes to the unsuccessful attempts of Mr. Loveday indirectly supports my view of the shortness of flight of the drones, and also of the queen, because had his queens ventured even a mile away from their home, they would have met stranger drones and avoided in-breeding, the district of Hatfield Heath being fully provided with bee-keepers. As to the flight of the queen, we may be led astray by the long journey a small swarm, headed by a virgin queen, will sometimes take; in such cases both queen and bees want to leave home and its neighbourhood and sail away happily on the gentle breeze; but a queen on her mating-flight has to fulfil other conditions, of which the most important is the safe return to the home she has just quitted. Now, as a queen-bee, to the keenest-eyed watcher, is almost at once out of sight, it is left to the imagination to supply probable details of what happens. My critics favour the swift, long-distance flight theory; I would suggest that the flight is a wide, gently ascending spiral, always keeping home in sight; that the scent of the queen is greater on that occasion, and attracts the drones, and also that the higher they rise together

the more easily the drone organs will be extruded, owing to the difference in air-pressure; lastly, a straight drop would bring her close to home. There is a tiny clearing in the spinney at Swanley where a stock stands hidden in the undergrowth. The bees fly up through an opening in the interlacing boughs of the surrounding trees, yet, secluded as the spot is, Mr. Herrod tells us it is a most certain place to get a queen mated, and safely return. Why should we attribute coyness or other human whims to bees, which we certainly do not think of in connection with poultry or breeding stock of any kind? Natural instinct impels them to seek the male, not avoid him, and so, doubtless, it is with the queen-bee, poetical sentimentalists notwithstanding. Our friend who provides "Cappings" says I have provided an almost bottomless "butt" for enthusiasm to fill—well, here is another for the patient enthusiast: Let such a one having queen-mating nuclei observe, if he has opportunity, how many minutes the queen is absent on her mating-trip. I know of one gentleman who has done this, but I have not got his notes. If this should come under his eye, will he kindly oblige many readers by publishing them? On the subject of locality may I be allowed to say something on a future occasion?—T. I. Weston, Hook, Winchfield.

EXTENT OF DRONES' FLIGHT.

SOME INTERESTING REMINISCENCES.

[6691.] In B.B.J. for April 18 (6678, page 156) a question was raised as to the extent of the drones' flight, the writer alleging that it was very limited. In reply I would say, as drones invariably take their flight high up in the air and out of sight, the extent of their journeyings cannot be ascertained by observation in the usual way. It is, I think, impossible to hear the hum of a drone on the wing at a distance from an apiary, although the surrounding clover-fields may be humming with the sound of working bees among the flowers. However, it is evident that the drones and queens go a considerable distance in their aerial flights at mating-time. In proof of this I may say that in the first apiary I had anything to do with most of the first swarms were removed a distance of a mile or so to be nearer to the clover-fields, and brought home towards the end of July, and frequently a considerable number of drones, with a few bees, returned to the old stands.

Another case may be referred to, although of a somewhat distant date. In 1859 the late Mr. T. W. Woodbury, of Mount Radnor, Exeter, who wrote under the nom-de-plume of "A Devonshire Bee-keeper," imported several Ligurian queens with the view of introducing them in this country, and offered to supply Italian queens at 10s. 6d. each, but, owing to certain unforeseen circumstances, his first attempt at queen-raising was a failure; so much so that he had only one queen to dispose of in 1860, and this he forwarded to myself in the beginning of June of that year, it being the first foreign queen to arrive in Scotland at that time. It was introduced into a strong hive, and in due time, when the drones from this queen appeared on the wing, a bee-keeper nearly three miles distant from my apiary had one of his young queens fertilised by an Italian drone. This was proved by the fact that most of this queen's progeny bore distinct marks of the foreigner, and in successive years several such instances were related to me.

Another question may be raised in regard to drones, viz., "How and when do they feed?" They certainly cannot be induced to feed outside the hive along with the worker-bees. As to their feeding in the hive, this is well worth investigating by some of the bee-experts, who might enlighten readers of the Bee Journal with the result of their investigations. I send name and sign—J. S., Berwickshire, N.B., April 24.

ODDS AND ENDS ABOUT BEES, ETC.

THE DOINGS OF LAST SEASON.

[6692.] From twenty-four hives I managed to extract 80 lb. of clover-honey during the month of July, 1906. This was 24 lb. less than the total yield of one hive in the previous year. I had no finished sections. Towards the end of August last I laid in what I considered the first hundredweight of sugar for winter feeding. On the 23rd of that month the beginning of the heat-wave was felt, and supers were immediately returned to the hives, and even extra ones added during the following fortnight. I am glad to say the sugar I bought was never used, and so far none has been needed this spring, as every available corner was crammed with very fine heather-honey; and a handsome surplus got from the supers. I may here say that this is the first occasion in my experience on which the weather has been propitious for storing much heather-honey, and my sales have realised 1s. 3d. per 1-lb. jar.

Keeping Queens Over Winter.—During the winter of 1905-6 I was successful in preserving several surplus queens in small hives containing two or three standard frames. During last winter I attempted to keep five in small mating-boxes, well wrapped up in spare "W.B.C." hives. They were well provided with bees and sealed

comb from heather shallow-frames. They did well till near the end of January, when I discovered all had perished from actual starvation, their stores being completely exhausted.

My total winter's loss included one queen from a "Wells" hive and the young ones mentioned above.

A Successful Chance of Re-queening.—I sometimes give a hand to a neighbour two miles away. In July I was summoned to hive a swarm, and having ascertained where it had come from, I opened the stock, and on the first frame being withdrawn I noticed two young queens in the act of settling the disputed succession. I immediately seized and caged the victor, and examined for more, but there were only two hatched cells. The rest were destroyed, and the swarm returned in such a way that I caught the old queen and dropped the young one among the ingoing bees. She was successfully mated, but what was remarkable about the hive was this: Although the sections had been well drawn out, very little honey was stored in them until the swarm had been returned; but at the end of the season two racks of sections, perfectly sealed, were obtained, while other hives with a greater force of bees did not yield nearly so well. My friend, though only two miles away, has the chance of cultivated fields.

Mr. Weston's Scheme of Drone-breeding.—My own apiary is situated two miles from the nearest bee-keeper, and then three, three and a half, and five from any others. All possess native bees but myself. In 1905 I bought a few virgins of the "Golden American" type, together with two fertiles of the same variety. So far none of my neighbours have had any cross-mated queens; at least, I looked through my nearest neighbour's bees last week, and no yellow stripes were visible.

This might be taken as the result of one year's observations, and be of some use in determining the range of the drones' flight. I have often wondered if I got any intermixture of blood by mating from my nearest neighbour's. I think not now. I think Mr. Weston's scheme would be quite successful here, so far as having command of the district is concerned. There need be no imitation of William the Conqueror's formation of the New Forest, and as I do not think the "Golden Americans" superior to the black bees, except for stocking mating-boxes, I expect to return this year entirely to the blacks again; and I may say that so far the queens mated from small 6-in. hives are vigorous and doing well. I shall attempt queen-rearing on the same scale as last year.

Popularising Bee-keeping.—A village not far from here was delighted to find that one of its inhabitants had become a fishmonger. He did excellent trade and soon prospered. He next became garrulous and confidential, and told what he was banking. His prosperity brought him a rival. Result: There was trade for two, but profit for only one. The moral is obvious in bee-keeping, strawberry growing, raspberry growing, and many other of our minor industries.

The Spring has been one of exceptional severity. On only a few days have the bees been able to forage on the early flowers. On April 7, 12 in. of snow covered the ground in our district.—D. V., Dunaskin, April 23.

A NEW ALIGHTING-BOARD.

ADAPTED FOR HIVING-TABLE AND WIND-GUARD.

(Design Registered.)

[6693.] I am sending you sketches of a contrivance that I invented a year or two back, which doubtless may interest some readers of the BRITISH BEE JOURNAL. It is intended to serve more purposes than one. First, as an alighting-board; secondly, as a hiving-table; and, thirdly, as a hive wind and snow protector.

As seen in sketch (Fig. 1) it simply consists of a board the width of the hive and

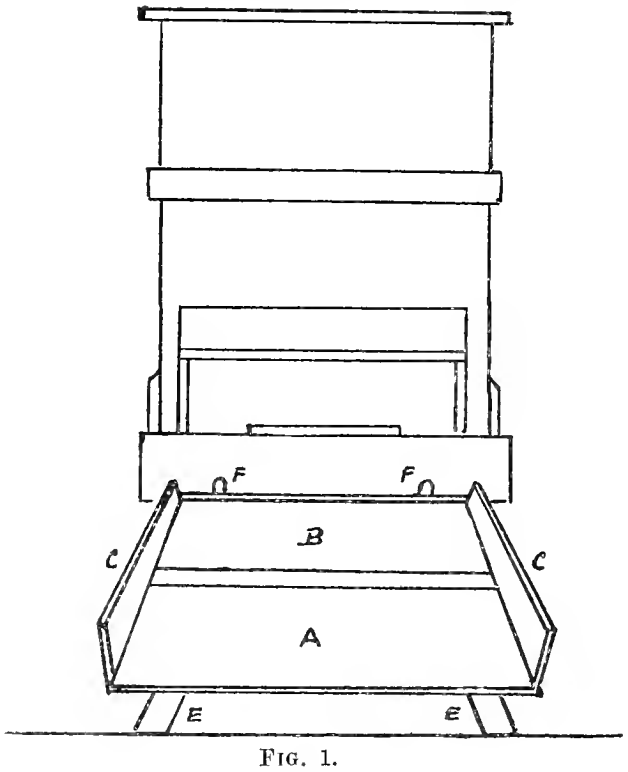


FIG. 1.

about 2 ft. in length, having sloping sides (C C), legs (E E) on the under-side, and a movable flap (B). Fig. 1 shows how the contrivance appears when placed in position on an alighting-board. The upper end is simply clipped on to the hive by springs, and the lower edge rests upon the ground. The flap B would then be lowered flush with the board. This affords an excellent landing-place for the laden bees

and prevents them—as it is broad and rests right on the ground—from being blown under the hive, and as there are good sloping sides attached, have a further effect of preventing their being blown over the edge.

The board can be used as a hiving-table (Fig. 2) by simply unfolding the legs E. The sloping sides again become indispensable in keeping the bees on the board when thrown down, and guide them, in a way, to the hive-entrance. As the flap is bevelled on its lower edge, it affords no obstruction to the bees when passing up.

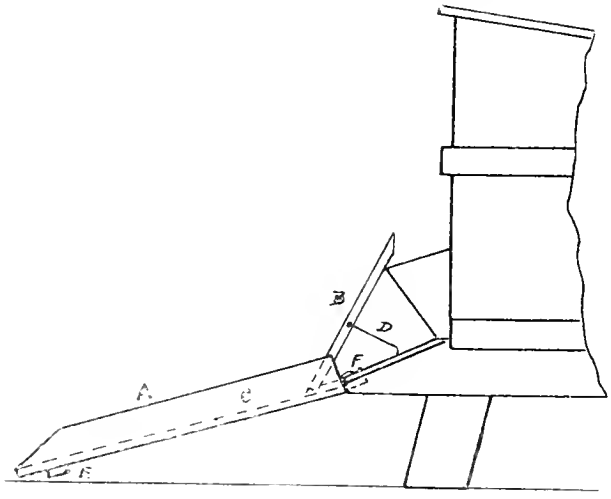


FIG. 2.

The second sketch shows board in position when hiving.

In the third case the flap protects the hive-entrance from snow, strong winds, and sunshine, in winter, when turned up and held in position by a strong wire hook pressed into the woodwork of the hive. I have tried this contrivance some time, and it seems to act quite satisfactorily. One or two boards in an apiary will be found very useful, and doubtless, if they could be turned out on a large scale, the cost need not be much. I may state that the design is registered.—G. C. DENVER, Glamorgan.

BREEDING FROM SELECTED DRONES.

IS IT DESIRABLE?

[6694.] I do not think that the artificial selection of drones, if it were possible, would be any great improvement on natural selection from a physical point of view. It seems to me that only in the case of a desire to keep a race pure can artificial selection be really essential. As other bee-keepers besides myself have noticed long ago, the temper of cross-bred bees appears to depend chiefly on the drone. I had an Italian queen crossed with a British drone, and the progeny resulting were perfect terrors for viciousness; while, on the other hand, a friend had a British queen crossed with an Italian drone, and the bees of this cross are quite peaceable. The Italian queen referred to above died this winter, and I do not regret her loss. She was the only one that I had. Italian bees are, I think, all right if kept pure, but, as that is impossible, I shall stick to the native or common variety; indeed, I think a bee-keeper should hesitate before he introduces the foreign element into a district. On one occasion I might have been stung to death by my hybrids had I not been well protected; as it was, my arms were simply thick with the stinging demons. The slightest attempt to open the hive up induced a furious attack. Even carbolic acid did not tame them. These bees were certainly vigorous.

As regards breeding good bees I think that if we breed only from the very finest queen-cells, naturally formed in a strong hive, we need not worry ourselves overmuch about the drones. The best drone has the best chance in the marriage-race. My idea is that when the perfect queen-cell is almost ripe it should be transferred to a small mating-box. I have succeeded in raising queens in this way perfectly. I do not sell queens, and in my opinion the dealer who raises only from perfect natural cells deserves a good price for his queens. What I call a perfect queen is rather rare, for too many are bred from second-rate cells. There is room for a dealer to specialise in queens raised in this way and guaranteed perfect. In my opinion all who deal in bees or queens should be absolutely honest and reliable. The man who can be relied upon will eventually succeed, if there be room for his trade to flourish at all.—W. J. FARMER, Redruth, April 26.

DRIVING BEES ON TO COMBS.

[6695.] As your correspondent, "Expert, Cheltenham" (page 126), asks me to explain how to drive bees direct on to combs I beg to say:—When intending to winter the bees for myself I prefer to drive them direct on to five or six combs in boxes holding just that number of frames. A thick quilt is laid on top of frames, and above that a light frame is screwed. The bottom of box is loose with rims or plinths lapping up the sides of box. A hole about 1 in. square is made in the loose bottom covered with perforated zinc. A screw in the rims will fasten bottom where desired. I use a tripod made like an easel, about 5 ft. high, with a rail across, on which I can fix the box of combs (without the bottom) by simply tying with stout cord. But I first fasten to the rail a piece of thin sacking or cheese-cloth, which hangs down like a

sort of apron. An adjustable rail can be used at from 10 in. to 14 in. below the box on which the inverted skep rests. This is put in position and tied with cords in less time than I can write it, one end of each cord being fastened to the tripod.

In my opinion short wooden clubs are far preferable for jarring skeps to bruising the knuckles of one's hands. I have driven nine lots in one short autumn afternoon.

After driving the bees, I cut out the combs whilst waiting for them to settle in order to see that they have fertile queens, and make sure there is no disease. Then, after packing them on a four-wheeled "pram.," I run them to station a mile and a half off, twenty-one miles by rail, and another mile and a half by road home.

In this district the bees do not store surplus after St. Swithin's, consequently fair driven lots are far more valuable than swarms—I mean ordinary swarms—after June 10. My first single driven lot, twelve years ago, yielded me over 50 lb. surplus in the following year. At present I have a number of driven single lots with sealed stores doing first class, and have no doubt they will give good returns.—A. H., Wavendon, Bucks.

RESULTS FROM SWARMS.

[6696.] *Teaching Beginners.* Will our friend L. S. Crawshaw kindly try again at "uncapping" my comb (6647, page 103)? There is something sadly wrong either with his knife or my intellect, for I cannot see the capping of a single cell so much as bruised by it. I should like to ask:—Can a beginner, who has nothing but foundation to start with, receiving his first swarm right on the verge of the clover honey-flow (more often in it), honestly be said to be working under conditions equal to one of the best bee-men in Scotland who receives his swarm from six to eight weeks before the heather blooms? Come, friend Crawshaw, come! come!!

Starters.—When a beginner receives his first swarm he should endeavour to get the bees to completely build their brood-nest first, and have its frames as nearly all filled with worker-comb as possible, bearing in mind they will build drone-comb if "starters" only are given; not altogether for rearing drones, but also for honey-storing. He should bear in mind that, if full sheets are given, the bees are almost forced to build worker-comb; therefore it is safest, best, and cheapest in the end. If he uses starters only, it as surely follows as night does the day that too much drone-comb will result, and naturally there will be many hundreds of superfluous drones the following season. Again, to teach a beginner to work for honey in sections at the expense of brood-combs is to my mind absolute folly. Further, how is the beginner to supply brood-combs artificially? He will have none on hand! Again, if swarms can be persuaded to store honey in sections without a brood-nest, when he comes to supply the combs artificially, I am thinking the beginner will find it would be brood he would need to supply as well as combs. Another thought rises in my mind—Why bother about supplying brood-combs at all? After the "forty to seventy sections" are secured, why not allow the few workers left to die out, and commence the following season with another swarm? The gist of the whole thing lies in the fact that a swarm will not store in sections in any quantity until the brood-nest is complete; and only then when there is an overwhelming force of foragers apart from the nurse-bees required in the brood-nest. In view of this I contend that such a force cannot be available in a five-pound swarm unless it has had sufficient time to work up into an established stock.

What does Mr. Crawshaw mean by a swarm's desire to build comb being abated through having travelled a long journey? Surely a bottle of syrup on arrival will supply as much material for comb-building as the bees took with them when they left the parent hive to cluster! The secretion of wax by bees is voluntary, and our friend surely cannot mean to say that a swarm *must* build comb in such a way as he was thoughtless enough to say a hen and a young queen *must* lay eggs.—J. Huxley, Kinnerton, Chester.

THE BEE TO CURE FOUL BROOD.

[6697.] Seeing that Mr. Simmins in his recent articles in the B.B.J. insists on vital force, energy, and vigour in bees, I thought the following particulars would interest some of your readers, while from other points of view the details I send are not altogether devoid of interest.

In our part of Derbyshire, on April 2 last, four stocks of bees were examined, with the following result:—No. 1 had ten frames placed at right angles to the entrance, which had been left open 6 in. the whole winter. Their sole covering during the whole period had been a piece of American oil-cloth and a piece of glass 8 in. by 12 in. by $\frac{3}{8}$ in.; yet the bees were fairly numerous. No. 2 had ten frames placed as above, and when examined there were about two frames well covered with bees. Their covering had been just the same as No. 1. No. 3 was a square hive holding ten frames hung at right angles to the en-

trance, which had been left open 6 in. wide during the whole winter; the sole covering, as before, had been a piece of oil-cloth, yet there were nine frames of bees, and brood in plenty. No. 4 was a hive of seven frames hung as the others. In the autumn two frames of honey had been removed and replaced by empty combs, when the bees were exceedingly vicious. This hive had a span roof, with a cone fixed at the back and front, the entrance open 5 in., and the frames open to the roof, *i.e.*, neither quilts nor wraps of any kind during the whole winter; yet there were six good combs of bees. When I say the situation of the hives is quite open, I am sure you will agree that the above facts are truly remarkable after such a winter.—W. DARRINGTON, Notts.

BEES IN S. GLOUCESTERSHIRE.

[6698.] Reports here tend to show that the past winter has been favourable to the bees. On going over my twenty-one stocks of Italian hybrids this week, I find that all have come through in good condition, except one which was found queenless. No spring feeding has been necessary in my apiary; and, as regards pasturage, sainfoin and the clovers are looking well after the recent copious rain.—F. U. BEAMISH, Third-class Expert, Pucklechurch, South Gloucestershire, April 26.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Wanted, a Wax Extractor (p. 151).—It is claimed for the new presses that they will practically free the cocoons from wax. Alternate pressure and release is applied under continuously hot water. Water is sucked in by the elastic mass, and another edition of the wax is expressed, much on the principle that ink would be removed from a sponge by continued rinsing.

The Breeding Club (p. 152).—The main argument given by Mr. Weston for this scheme seems to be that the comparative values of individual queens could be better checked than by a regular breeder. But is it so? With 300 members there must be considerable difference in ability, and this factor would surely tend to disguise the real results somewhat. Again, it is a little difficult to compare the work of queens in different districts. But, anyway, a keenly-interested breeder could obtain similar facts from his customers. As to location, there are certainly, as Mr. Reid suggests, parts of Scotland without bees within a radius of ten miles or so, but are they accessible? What about the observatory on Ben Nevis as an isolated situation suitable for the purpose? It is rumoured that this is to be let.

Orthography (p. 155).—Will "D. M. M." give the address of Hector Boece, so that he may be urged to abandon his proposed spelling reform? Certainly "Hadder Hoonni" has a delightfully smooth and sweet euphony, and is to be preferred to the ultra-modern form of "huny" which he uses. But one must really draw the line at "beis." They need no additional "i." Had it only been a diphthong, to typify their compound eye, one might have seen reason, and not condemned the old chronicler to the penance of a long course of "spelling bees."

Protecting Feeders (p. 157).—Is not this a simple and useful idea? Cork dust unrestrained is a positive nuisance, and it is not always possible to pack up a feeder well and quickly. May I suggest that this is a very good use to which to put old "tea-cosies"? The objection to such devices is that unless one works very cleanly there is a danger of the feeder becoming stuck to the cover. This must, as stated, be guarded against when removing.

Drone Flight (p. 158).—Will those correspondents who are about to write, offering to match drones, kindly note that the victor is dead of excitement, and the vanquished saved his life on the principle of "he who fights and flies away"? But I say, Mr. Editor, that was too bad to make me say such a thing: you know that should have read "drone flight." *You* may "fancy the fight" in all its details, but *I* am left to correct the historian with a fresh "flight of fancy"!

Side Walk (p. 161).—Of course, this American synonym for "pavement" is a misprint, and should read "side-wall," but it suggests a vision of an orderly procession of dames, marshalled by burly drones, lined up in *queue* for their expeditions to candy-store or sweet-shop. Keep to the right, please, ladies: keep to the right!

Drone Excluder (p. 162).—The advantage of this contrivance is not quite clear from the text. If the drones are to be excluded when the young queens are ready, they will simply enter other hives, and remain at large. Or, should no favourable flight day occur for a day or two, followed by glorious weather, they will still be free to mate, for the device is not a proper trap, as are those already upon the market.

Marketing Honey (p. 165).—The intention of the writer appears to be that the question, "Will bee-keeping cease to pay?" shall be answered at the close of his article in the *affirmative*, not the "negative." We have heard a good deal of what the B.B.K.A. must do to popularise the use of honey as a food,

and the subject is well worth serious discussion. That the medicinal value of honey is already appreciated in some quarters witness the following story, taken from a current daily paper:—"Sir Herbert Maxwell was once asked by a Scotch gillie, named Tom Hogg, to subscribe to an Aperient Society. 'That must be a queer kind of society,' he said; 'how does it work?' 'Oh,' replied Tom, 'it's juist a bee-club; we're great on th' honey in these parts, ye ken!'"

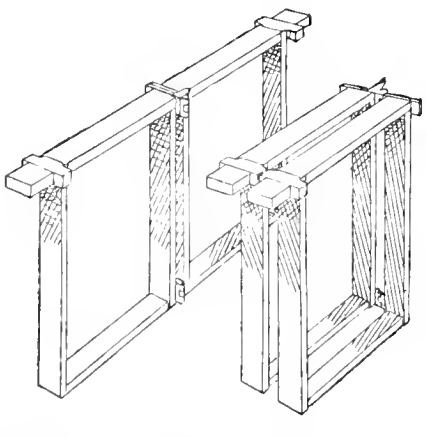
Home Preference (p. 166).—It is a new argument, even in these tariff days, that we should stick to the black bees because they are English, or, perhaps I should say, German. Whilst I have a preference for the native bee, it is because I believe that it has been adapted by untold generations to our climate. But, just so soon as any race is able to incontestably prove its superiority, year after year, without continual bolstering, then am I willing to give it pride of place without sentimental objection.

Brevity (p. 169).— One expects "the soul of wit" in the prepaid advertisement columns, but one does not always find it alive. Is this a fair specimen? "Wanted, stock of bees, Irish terrier cross smart dog." It will be noted that this is a part exchange sale, but whether part of the dog or not the soul does not say. It is not, however, surprising that the dog is cross, possibly on account of the smart. The advertiser does not say if he has got supers on the kennel yet!

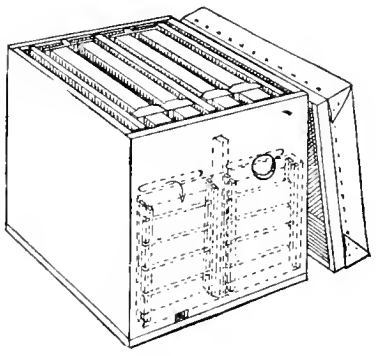
NOVELTIES FOR 1907.

SLADEN'S TWIN NUCLEUS-HIVE AND FOLDING FRAMES.

This nucleus-hive has been specially designed to accomplish the fertilisation of queens in the easiest and most satisfactory manner, using the smallest number



of bees that it is safe to employ in the British climate. The most important feature is the frames, which, while perfectly interchangeable with ordinary B.B.K.A. standard frames—and therefore capable of being used in any hive—may be folded so as to make two half-frames, which are exactly what is required for fertilising work. Each nucleus-hive takes two nuclei, which can be united together, if desired, by removal of the middle partition. The hive



is fitted with Sladen's side-wall feeder (shown in dotted lines) and several other improvements suggested by many years of queen-rearing. The hive and frames were thoroughly tested in Ripple Court Apiary last season with perfectly satisfactory results.

Queries and Replies.

[3503.] *Drones from Unmated Queens.*—In examining one of my hives of bees I find the queen to be a drone-breeder; probably she has never been fertilised. There are a lot of drones now in the hive, and I will be glad to know through the BRITISH BEE JOURNAL whether it is advisable to use these drones for mating young queens? Would you favour me with a reply in this week's JOURNAL?—D. C., Cole Green, Hertford, April 29.

REPLY.—Drones so reared are undoubtedly able to fertilise queens, according to the law of parthenogenesis; but personally we should never think of allowing them to do so if there was any alternative, seeing that these drones would not tend to "the survival of the fittest."

[3504.] *Feeding with Granulated Honey.*—I have two or three frames of comb very heavy with honey taken from one of my stocks when closing up last autumn for winter, and which I thought of returning to the bees now; but, on examining the frames, I find some of the honey has granulated, and there are some few cells with honey which has never been sealed; there are also about fifty cells on the two sides half-filled with pollen which is covered with white mould or mildew. I decided, therefore, before giving the frames to the bees to ask you (1) whether any ill-effects might result from my doing so either from the uncapped honey or the mildewed pollen? 2. If it is safe to give the bees the frame, should I uncap that portion of honey which is sealed? 3. Should I cease feeding with their syrup (which I am at present doing) whilst the bees are consuming the honey in the frame? Name sent for reference.—JIC, Epsom, April 28.

REPLY.—1. No ill-effects whatever will result beyond having a good portion of the crystallised carried out by the bees in granules if the honey is coarse in grain. 2. You should shave off the whole of the cappings. 3. Not neeessarily.

Bee Shows to Come.

May 28 to 31, at Maidenhead (Berkshire B.K.A.).—Show of Honey in connection with the Annual Exhibition of the Royal Counties Agricultural Society. Over £20 in prizes. Schedules from D. W. Bishop-Ackerman, Hon. Sec. Berks. B.K.A., 161, King's-road, Reading. **Entries closed.**

June 25 to 29, at Lincoln (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Special classes for the Lincs. B.K.A. only. Schedules from E. H. Young, Sec. B.B.K.A., 12, Hanover Square, London. **Entries close May 28.** Schedules and particulars for Lincs. B.K.A. classes from R. Godson, Hon. Sec. Lincs. B.K.A., Tothill, Alford.

July 17 and 18, at Burton-on-Trent.—Honey Show of the Staffordshire B.K.A. Special prizes, including five Open Classes. Prizes, 20s., 10s., and 5s. Single 1 lb. Jar and Section (entry free). Schedules from Joseph Tinsley, Expert, Chebsey, near Stafford. **Entries close June 22.**

August 8 to 10, at Barnsley.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. Schedules and form of entry from John Maughan, Secretary, Blake-street, York. **Entries close June 29.**

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

A. S. B. (Pudsey).—*Using Second-hand Hives and Combs.*—So far as we can judge from comb sent, the hive will only need washing out to make it safe for use. The stock has evidently died of starvation. There is no sign of disease in combs, so they will need no disinfecting.

J. R. Neve (Campden, Glos.).—*Granulation of Honey.*—1. It is quite common for the lower portion of a jar of honey to granulate while the remainder keeps in liquid condition for a long time. The reasons for this are purely technical, and too abstruse for reply in this column. 2. March is a very usual month for "robbing" to start, and if not coped with at the beginning spreads rapidly, and is very difficult to stop.

R. H. (Cornwall).—*Insect Nomenclature.*—1. The insect sent is a much-worn specimen of the common Humming-Bird Hawk Moth. 2. Comb is affected with foul brood, but the disease appears to have started only recently.

Queen Excluder (Worcester).—If excluders are well scraped to clear away propolis and brace-comb, then dealt with as stated, they will be quite safe for use again.

Harry Howie (Larkhall, N.B.).—*Granulated Honey in Combs.*—The only way out of the difficulty you name is to uncap the combs and allow the bees to clear out the cells in their own way.

(Miss) G. M. W. (Hants.).—*Moving Bees 40 Yards.*—The only safe plan of changing the location of bees so short a distance at this season without losing bees (other than by the orthodox method of a few feet at a time) is to move the four stocks a mile or two for a few weeks, then return them to the desired permanent stand. If the above plan is not convenient, the only alternative is to move the hives after night-fall, and place a leafy branch of a tree across each entrance—or some loose hay or straw will do—so that the bees will have to make their way through the obstruction. Leave this for a few days, then clear all away. This will minimise the loss of bees.

Suspected Combs.

Amateur (West Riding).—Only chilled brood in comb sent

J. T. Thomas (Swansea).—Comb shows a bad case of foul brood of old standing.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

3 DOZEN HANGING FRAMES, for Sections, 2s. dozen, with dividers, in good condition.—L. M. BEAR, Magham Down, Hailsham. y 47

A FEW QUEENS, 1906, TO SPARE, in introducing cage, 5s.—BR. COLOMBAN, Abbey, Buckfast, Devon. y 56

PROTECT YOUR FRUIT.—Tanned Garden Netting, only best quality supplied; order promptly, as nets are scarce and must be dearer; 25 yds. by 8 yds., 50 yds. by 4 yds., and 100 yds. by 2 yds., 9s. each; add 10 per cent. for other sizes.—L. WREN AND SON, 139, High-street, Lowestoft. y 64

WANTED, for Scientific purposes, QUEEN BEES and WORKER HORNETS. Will brother bee-keepers oblige?—HERROD, Apiary, Luton.

WANTED, STOCK OF BEES. Will give Irish Terrier (cross), smart dog, as part exchange if desired.—BELL, 23, Silverleigh-road, Croydon. y 21

NEW "W. B. C." HIVES, 2 "W. B. C." six-frame Nucleus Hives, Solar Wax Extractor, Sundries. Must sell; removing.—BOWDEN, Castle-road, Salisbury. y 62

PRIZE HONEY, 8 dozen good Sections, 7s. per dozen; "British Bee Journals," from 1895 till 1900, what offers? — MATTHEWS, Saunders, Sticker, St. Austell, Cornwall. y 52

CYCLE, Path Racer, "B.S.A." fittings, with two sets of wheels, £4, or exchange for Bees.—PHILIP FIELD, Skelmanthorpe, near Huddersfield. y 55

THE "COTTIMORE" HIVE is made of ⅞ in. yellow deal, dovetailed, floor on legs, body-box, double cased, with 11 bars, ends, quilt, porch, and shutters, 9 in. lift, telescopes, improved roof with bee-escapes, painted and packed complete. Price 10s. 6d.—MARSHALL, 3, Adelaide-villas, Cottimore-lane, Walton-on-Thames. y 58

3 HANDSOME HIGH-CLASS WHITE WYANDOTTE COCKS, 5s. each.—HARRIS, Wavendon, Bletchley, Bucks. y 59

FOR SALE, 3 Stocks of Bees, in bar-framed Hives, with appliances.—MRS. HOLMES, Farley, Matlock. y 60

GILLIES MARVELLOUS CONTROL-CLOTH, in vest pocket case, with clearly printed instructions for manipulation of Bees; two delivered anywhere, 7d. stamps.—43, Dawson-street, Dublin. Agents wanted. y 61

TO BE SOLD BY AUCTION, by Messrs. Ovens, at 3 o'clock, on Saturday, May 11, Sawyer's Cotswold Apiary, situated at Blue Quarry, London-road, Cirencester, comprising 18 Stocks of Bees, in bar-framed Hives, Honey and Wax Extractors, Ripener, combed shallow Crates, Section Racks, &c.; also well-made Sectional wood house, 20 by 10 by 10, easily removable. y 40

Special Prepaid Advertisements.—*Continued.*

FOR SALE, 77 lb. Light Hampshire Honey, £2, carriage paid, tins returnable.—HILLIER, Hurstbourne, Andover. y 63

TILLEY'S PATENT ("Won't Leak") HONEY-COMB RECEPTACLES (Sections). Particulars post free; 2 lb. sample, 6d.—M. H. TILLEY, Bee Farm, Dorchester. y 42

MAY SWARMS, 3s. per lb.; June, 2s. 6d.—A. ADAMS, Pollard, Farnham, Blandford. y 43

WANTED, May Swarms of Woodley's Bees, 2s. 6d. lb., boxes provided.—NICHOLSON, Langwathby. y 46

THE CHEAPEST and best way to buy Bee New Swarms is in 10 Standard Frames, all on Approval. Cash with order; safe arrival guaranteed.—THOMPSON, Apiary House, Gowdall, Snaith, Yorkshire. y 57

QUEENS.—A doz. Fertile Queens for Sale, tested, 3s. each.—JAMES HILLMAN, Stonehouse, Glos. y 15

HEALTHY NATURAL SWARMS, May, 3s.; Early June, 2s. 6d.; Late, 2s. per lb.; returnable box carriage forward.—THE PRESBYTERY APIARY, Marnhull, Dorset. y 44

A BARGAIN.—Two Stocks of Bees, in Bar-frame Hive, soon ready for Supering, 50s., f.o.r.; or will sell separately; guaranteed healthy. This offer will not appear again.—HEMMING BROS., Standlake, Witney. y 51

FOUNDATION STRETCHING PREVENTED by "Nondescript" Device; better than wiring; every cell free for breeding. See Mr. Fraser's letter, March 7. Easy to make, costs next to nothing. Sample set, with directions, P.O. 1s. 1d.—W. PALMER, 174, Curzon-street, Netherfield, Nottingham. y 49

GUARANTEED STOCKS, 15s.; in Hives, from 22s.; Swarms, 12s.; delivered locally; Queens, 7s.—HANNAM, 70, Highgate-road, Birmingham. y 48

FINE STRONG SEEDLINGS.—Dobbie's Prize Striped Antirhinums, Godetia, Schamini, new, 4d. per doz, post free.—JOHN HETHERINGTON, 88, Main-street, Brampton, Cumberland. y 39

SWARMS.—To May 15, 15s.; to May 31, 12s. 6d.; June, 10s. each, including packages.—AVERY, Deverill, Warminster. y 53

FOR SALE, about 5 cwt. of Excellent Medium Honey, of splendid flavour; also 1½ cwt. of Light ditto.—For samples and price apply to J. HOWLAND, Brampton, Huntingdon. y 51

SWARMS BOUGHT. 2s. 6d. lb. given, delivered here; boxes supplied if required.—R. STEELE, Wormit Works, Dundee.

FOR SALE, 7 Section Crates (joiner made), 2 Lees' "Crystal Palace," with Excluders and Dividers, 1s. each.—WAKERELL, 21, Mansfield-road, Croydon. y 54

12 HIVES, half price, and Stocks, Simmins'. for immediate disposal, cheap, healthy; or exchange Honey.—HORTON, Flixton, Manchester. y 41

ITALIAN FIRST CROSS, best honey-gatherers, good-tempered; strong ten-frame Stocks, with last season's Queens, guaranteed healthy, this season's work, package free, 25s. each.—O. KNIGHT, Epney, Stonehouse, Glos. y 16

1S. FOR 50 Snow-white Split-top Sections, 4¼ by 4¼.—SEABROOK YOUNG, Crabbery-street, Stafford. y 24

HIVES, 7s. 6d., satisfaction guaranteed, for 10 Standard-frames, double-walled, Brood body, back and front, 18in. by 16in., 9in. lift, telescope roof and porch; also Hives, ditto, 18in. by 18in., with dummy, sliding entrance, 9s. 6d.; cash with order.—COX, manufacturer, Smallbrook-street, Birmingham. y 28

Special Prepaid Advertisements.—*Continued.*

SPLENDID GRANULATED HONEY, chiefly from Limes, 2 60 lb., 4 30 lb. tins. Offers wanted.—HUDSON, Crane Hill, Ipswich. y 29

QUEENS, Blacks, Golden-all-overs, Italians, by return post; Carniolans booked full till May 10th; every Quen guaranteed satisfactory; Virgins of above ready June 1st; book quick.—Descriptive list free.—CRUADH Apiaries, Ballyvarra, co. Limerick. y 31

WILL BOOK ORDERS for 20 Swarms, May delivery.—CRUADH Apiaries, Ballyvarra, co. Limerick. y 31

QUEEN-BREEDING.—Mr. F. W. L. SLADEN has a vacancy for a pupil at Ripple Court Apiary, near Dover.

200 SWARMS WANTED, 2s. 6d. lb. given, carriage paid to Welwyn; boxes supplied.—E. H. TAYLOR, Welwyn, Herts.

31ST YEAR, NUCLEI, 3 Frames brood Bees, and 1906 Queen, 12s. 6d.; case, 3s., or returned carriage paid.—ALSFORD, Expert, Haydon, Sherborne.

CHAPMAN HONEY PLANT SEED, 3d. per packet, post free; tall Tie-over lb. Jars, exact size, 1s. per dozen, in three or more dozen lots.—WOODLEY, Beedon, Newbury.

FINEST QUALITY LIGHT-COLOURED ENGLISH HONEY, in 7, 14, and 28 lb. tins; sample, 3d., post free.—C. DUNN-GARDNER, Fordham Abbey, near Soham, Cambs. y 9

SPLENDID SECTIONS OF BEST HONEY. What offers?—Rev. A. R. RUNNELS-MOSS, Ladywood Vicarage, Birmingham. x 98

SWARMS now booked, in rotation, May 12s. 6d., June 10s. 6d.—G. GILLETT, Prudential, Moreton-in-Marsh. x 95

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester. q 93

DOVETAILED "W. B. C." HIVES, painted, £1 each; slightly-used ones, 12s. 6d. and 15s. each; all complete, guaranteed free from any disease.—H. SWIFT, Churchdown, Cheltenham. x 73

DON'T FAIL to have one of my Hives before Swarms come; all Hives sent out are fitted with Frames and Sections with Starters, and painted Cottagers, 8s. 6d.; "W. B. C.," 15s.—RANSOME, Hellingly, Sussex. x 77

BOOKING ORDERS for SWARMS last week in May and June, at 10s., 12s. each, packed free. Order early.—HARRISON, Bee Farm, Middleton, Pickering. x 72

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order.—EDWARD REYNOLDS, manufacturer, Andover, Hants.

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw cap jars, 7s. doz., 77s. gross; ½ lb. ditto, 4s. 6d. doz., 45s. gross; 14 oz. ditto, 6s. 6d. doz., 72s. gross; Honey in bulk, 48s. cwt.; pure breed sitting eggs, 4s., guaranteed.—TURNER BROS., Sandpit Poultry Farm, Croydon. w 65

WHITE ORPINGTONS and BLACK MINORCAS.—We have again some splendid pens of each variety, bred from exceptional layers and true to type; special price to brother bee-keepers. Eggs 3s. for 15. 10s. for 50; day old chicks, 6s. doz., £1 for 50; all carefully packed, carriage paid on two sittings.—J. HOUSEHAM, Huttoft, S.O., Lincolnshire. w 3

SITTINGS OF PURE WHITE Silver and Partridge Wyandotte Eggs, all from best laying strains: White and Silver, 2s. 6d. and 5s.; Partridge (from H. Wright's first prize Crystal Palace strain), 5s. and 10s.; Essex incubator, 50 eggs, self supply lamp, in perfect working order, 30s.; also Conqueror Hive (Simmins'), with 3 Section-racks and 300 Sections for same, 35s.—H. KEIGHLEY, Kirk Hammerton, York. v 71

Editorial, Notices, &c.

THE BLACK-CURRANT MITE.

We have received the following notification from the Board of Agriculture and Fisheries for publication in the BRITISH BEE JOURNAL as possessing interest for bee-keepers:—

"The Board of Agriculture and Fisheries desire to announce that a new edition of their leaflet on the Black-currant Mite has been published, in which information on the treatment of this pest with lime and sulphur has been incorporated. Fruit-growers whose bushes have been attacked with the mite are advised to experiment with this process. Copies of the leaflet may be obtained gratis and post free on application to the Secretary of the Board of Agriculture and Fisheries, 4, Whitehall Place, London, S.W. Letters so addressed need not be stamped."

REVIEWS OF FOREIGN BEE-JOURNALS.

By "Nemo."

What Causes Robbing?—We read in *Rucher Belge* that robbing is due generally to the carelessness of the bee-keeper: 1st, because he has neglected at the proper time to unite queenless colonies; 2nd, he has spilled honey near the hive or apiary; 3rd, he has not closed all the fissures and reduced the size of entrances at the first decline of the flow of nectar; 4th, he has fed the bees during the daytime, or allowed the partially-filled feeders of the previous night to remain on the hives; 5th, in a time of scarcity he has had his hives opened during the day and prolonged his examination instead of doing what had to be done in the early morning and late evening; 6th, he has replaced newly-extracted combs during the day, or has allowed honey-comb to lie about.

Best Race of Bees.—M. E. Ruffy has published in the *Bulletin de la Société Romande d'Apiculture* an interesting article on the different races of bees cultivated in Switzerland. He asked the question, "Which race do you prefer?" and has had replies from 204 bee-keepers: 95 preferred the crosses of different races; 90 preferred the common black bee of the country; 12 preferred Italians; 7 preferred Carniolans; and he concludes by advising bee-keepers to raise their own queens and keep their money in their pockets.

Imports of Honey into Egypt.—According to the *Bienen-Vater* the imports in 1905 amounted to 82,290 kilogrammes, valued at £E2,045, against 75,745 kilogrammes the previous year. As is usual in the Orient, the consumption of honey in Egypt is considerable, as it is freely used in the various sweet dishes and refreshing drinks, such as sherbets, &c. The bulk of the imported honey is extracted, and comes from Syria, Greece, and Cyprus in barrels, and costs 1.40 fr. per kilogramme f.o.b. in Alexandria or Port Said. The trade in superior honey in glass jars is small.

New Bee Disease.—In the *Schweitzerische Bienenzeitung* M. G. Rippstein describes a disease that has appeared in the Canton Soleure and has spread to several apiaries. It was first observed in the summer of 1905 during the second harvest. Reports of the outbreak were received from twenty apiaries between Lauterbach and Bienne, and also in Soleure and Bucheggberg. The first outbreak was noticed in 1902, and the disease has appeared here and there in a mild form every year since that time. This new bee-trouble generally makes its appearance from the end of May to beginning of July, usually with the second harvest, and disappears when this is ended. It is most severe during an abundant yield of nectar, and colonies having their entrances facing south are the worst affected. It appears to be produced by a plentiful harvest, and weak colonies either escape altogether or are affected very slightly. The affected colonies lose from one-fifth to one-half of their populations. From outward appearances the dead can be placed in two groups. The smaller number have a normal aspect, but the largest are quite different. The abdomen is black and shiny, destitute of hair, small, lean, and pointed. Probably these shiny bees are the foragers, and the others young nurse-bees. The dying shiny bees tremble, extend their wings upwards, move convulsively as if they were suffering pain, fly round with evident fear, and are no longer admitted into their hives. The other affected bees run about in front of entrance or round the hive until they drop to the ground. Most of the dead are found in the morning; so it is evident that many must die on their foraging trips. No remedy is suggested, and bee-keepers are asked to make careful observations and to report.

Strong Colonies.—M. L. Arnold says in *Rucher Belge*, besides the fertilisation of plants by bees, and the interest these industrious insects inspire, the object of apiculture is to produce honey. For this purpose he urges the advantage of having all colonies strong, and sums up the requirements for a good harvest with the following, which he calls the golden rule of apiculture: Large population in the hive

+ abundance of melliferous flowers + fine days and hot nights (thundery weather inducing a copious secretion of nectar) = abundant harvest.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[6699.] The spring weather now due delayeth its coming. May is with us, rough and cold, more like early March than genial May, the cold, accompanied by windy, wet days, retarding the progress of bee-life and delaying the building up of our stocks very perceptibly. Therefore all we can do is to await a change for the better and feed without delay. Remember that stocks fairly well provisioned at the end of March may now be on the verge of starvation if not attended to in the meantime.

I notice that the "Honey Imports" for March (page 171) gives the value as £3,923 for that month. This is, with one exception, I believe, the highest sum for March recorded in our past volumes. One would gather, in comparing the values with, say, a dozen years ago, that the quantity of imported honey has nearly doubled! Can any of our readers give a reason for this growth? Does the Britisher eat more honey than his forbears, or is it because the foreigner has improved his methods of production and is sending over a better-class honey than formerly?

In the matter of drone-flight and in-breeding in Mr. W. Loveday's case mentioned by Mr. Weston (6690, page 172), I should say, if Hatfield Heath is fairly well stocked with bees it is not likely that in-breeding had anything to do with Mr. Loveday's losses through foul brood, but that the disease was, in his case, of a virulent type. It is well known that there are two forms at least of the pest, one virulent and foul-smelling, the other much milder in form and practically odourless. In the latter case the disease is kept under by the ordinary remedies, while the virulent form will defy every means employed to combat its spread.

The extended alighting-board shown (on pages 171-5) last week will, I think, be a useful adjunct in an apiary, especially where the hives are in exposed positions. I have used similar boards with wind-breaks at the sides, but the top half of board to turn up to obstruct the light—aye, and prevent snow in winter from entering—seems a very useful improvement.

Selling Swarms by Weight.—As May heralds the season of swarms the question of selling bees by weight is again to the fore. Some advertisers offer bees at 2s. 6d. to 3s. per pound, and others "natural swarms" at from 10s. 6d. to 15s., according to size. My own belief is that natural swarms are far more likely to work with a will than any artificial swarm, but when your customer demands a particular weight (say 5 lb.), and a natural swarm comes off weighing a little under that weight, what can you do? By the time the bees have travelled one to three hundred miles they will be still further reduced in weight, and this adds to the grumble, which can only be avoided by your customer waiting for a heavier swarm. The less exacting customer thus gets the earlier swarm. The buyer should realise that bees cannot be weighed up as a grocer does currants, adding a handful from another swarm to make up the desired weight. And thus the buyer loses place in "booked orders" list if he is so insistent on having the exact weight. In good seasons in a large apiary many swarms may come off in one day, and a few handfuls of bees may readily be added from an over-heavy swarm to a smaller one. I would suggest that purchasers should not tie the hands of sellers to a few ounces of bees. Allow a margin and arrange that part of cash be returned for short weight. Artificial swarms need not come within my suggestion, as the seller can make his swarm up to the given weight by "driving" or "shaking" more bees.

I add a line to say that, since writing above, the weather has changed. To-day (May 6) has been an ideal bee-day. Thermometer over 70 deg., bees working on the dandelions; the new honey brought in tastes distinctly as the dandelion flowers smell.—W. Woodley, Beedon, Newbury.

THE MATING-FLIGHT PROBLEM.

[6700.] May I pour a few drops from the small receptacle of my experience into the "almost bottomless butt" which Mr. Weston has set up and Mr. Crawshaw christened?

Both in our school apiary at Seamon's Moss, and in my own apiary, I use baby-nuclei of our own design for mating purposes, the baby-combs being made of $\frac{1}{4}$-in. by $\frac{7}{8}$-in. grooved bars, such that four of them fit tight into a standard frame—

that is, they measure 6¾ in. by 4 in. outside. The baby-hives will take three of these small bars, though we generally use two only. Thus a single standard frame furnishes two baby-hives with bees, brood, and stores. Each baby is given a queen-cell and kept under close observation, and we find them excellent, both for mating queens and for making accurate observations of the mating process, so far as it concerns the flight of the queen. They may be used all through the summer for mating queens, without loss of strength, if each queen when mated is given about three days to fill the empty cells with eggs. As soon as a queen is taken out for sale or use, the bees build queen-cells in the ordinary way, which we destroy when we put in a fresh selected cell. No queens should ever be *reared* in baby-nuclei, as the force of bees is not sufficient to properly nourish a queen. The "babies" are painted on the front with the brightest and most glaring colours of enamel, ours being (1) white, (2) blue, (3) yellow, (4) green, (5) chocolate, (6) red, (7) black, and they hang on a wall under the shade of a pear tree close to my kitchen door. The following are notes from my diary of 1905 (edited a little to make them understandable by the general reader):—

May 27. No. 2 swarmed; examined and found large number of good cells.

,, 31. Made up eight "babies"—two frames each.

June 3. Piping queen in No. 2. Opened hive and found her a fine queen. Cut out eight queen-cells and put into baby-hives. Left two cells in No. 2.

,, 4. No. 2 swarmed (a cast) at 9.30 a.m. Found two virgins on running them in, and made up another "baby" for one of them.

,, 8. Young queens flying at nuclei.

,, 9. Saw drone sign of mating on queens in both red and brown "babies."

,, 10. Watched nuclei from 11.30 till 2.30. Queens from red, white, black, and brown did not fly. Queen from yellow flew and returned eight times. Times of absence varied between one minute and seven minutes. Apparently did not meet drone. Queen from blue hive flew twice only. The second time she was absent twenty-three minutes.

,, 13. All six queens laying.

This ends my notes on this particular set of queens. I remember that on three days I spent the time between 12 noon and 2 p.m. smoking my pipe and keeping an eye on these six hives. The queens were repeatedly on the wing, and as the entrance to the nucleus is only two bee-spaces wide, I had plenty of chance to note the condition of each queen as she alighted and ran in.

I found that when a queen came in *unmated* she hovered for a considerable time in front of the hive before alighting, but that, once alighted, she hurried into the hive. On the other hand, a queen returning mated flew at once on to the alighting-board, and walked slowly in as if tired.

In one case the queen, returning, missed the board and settled heavily on the brick wall, where she remained while I fetched a hand-magnifier from the house and examined her as she sat. Under the glass the drone-trail (a silvery-looking filament) could be plainly seen. The queen remained so long on the wall brushing herself that I began to think she was disabled, but on touching her she took wing, and, after taking one circling flight round the yard, she entered her own hive, and is now at the head of an excellent stock, from which I hope to rear more queens this season.

This experience is, I think, valuable, because it is evidence that when a queen is absent on her mating-flight it is by no means certain that she is on the wing the whole time. While the watching bee-man imagines her flying miles from home to consort with a favoured drone from a distant apiary, she may be sitting preening her ruffled "feathers" within his reach, but unnoticed.

Last year—1906—I deferred queen-mating until September, as I wished to get some queens mated with Carniolan drones. My mode of operation was as follows:—On July 8 I put two full standard bars of drone-foundation into my best stock of Carniolans (imported from Michael Ambrositsch, September, 1905). By September 1 I had some thousands of Carniolan drones in this hive. I then removed the queen and three bars of brood, and on September 6 destroyed all the queen-cells in the drone-hive, leaving them hopelessly queenless. This hive retained its drones beyond the end of October, and by the middle of September all drones in my own and my neighbours' apiaries were cleared out.

I had twelve Carniolan queens from another good stock, hatched on September 22; four were placed in baby-nuclei, and of these *none* were mated. Six were in three-frame nuclei, and of these five were mated. The other two were placed in full stocks after taking

out old queens, and both these mated. My experience points to the following conclusions:—

1. Baby-nuclei are not effective as mating-boxes in cold weather.

2. The larger and more populous the nucleus the better the chance of mating, when the weather is such that only very rare snatches of sunshine give mating weather.

I have kept six of these seven October-mated queens through the winter, and their progeny are undoubtedly pure Carniolans. They are, if anything, lighter-banded than their parents, so that I claim that the artificial retention of drones until after the other drones are destroyed is available for securing mating by selected drones, always conditioning that the weather is propitious.

I kept the drones alive until November 5 in the hope that a fine day would see a queen from the baby nucleus mated, but by that time I found on opening the drone-hive that the whole of the drones were clustered on the floor-board in a heap, and that they were weak and unable to fly. On joining up the old queen to her stock again the drones were all thrown out the same night.

These late-born queens are all apparently as large and vigorous as queens of the normal swarming season. They were all reared from the egg, and reared in a very strong stock, and it now only remains to watch their "staying powers" during the seasons 1907 and 1908.

This year I intend to try whether I can get three of Mr. Sladen's British Goldens mated with Carniolan drones at a farmhouse from which the nearest bees are distant about one and a half miles. I am not sanguine of success, for I believe that drones make long flights to reach a maiden queen, although the proof will be hard to come by. Whoever saw a drone settle except at the entrance to a hive? I never saw a drone abroad other than on the wing in all my experience. They certainly never could be found among workers on the flowers. Marking drones would, therefore, be of no use. I feel certain, however, that a mating-ground could be found by choosing a locality quite unsuited to bee-keeping. I think the Lancashire B.K.A. might find a district with a three-mile radius free from bees in such a neighbourhood as Oldham or Middleton Junction. The whole subject is of great interest, and it is to be hoped that everyone whose experience can contribute anything to the solving of the problem will not be slow to make it known. —Thomas Johnson, Seamon's Moss School, Altrincham.

BEE-KEEPING IN ITALY.

[6701.] The enclosed letter may be of interest to B.B.J. readers, if you care to publish it, omitting name of my correspondent, of course.—T. I. Weston, Hook, Winchfield, May 2.

Rezzola, Sarzana,
Prov. di Genova,
April 29.

Dear Sir,—Your kind letter reached me just as I was leaving England, and was very welcome. So far, I have been quite successful with the bees here, and have been able to interest my brother-in-law, so that he is talking of a fifty-hive apiary. Several things have surprised me here. 1. The elementary stages of apiculture in this province of Italy. The industry is left to the cottager, and he knows only the sugar-box or inverted tub as a hive. 2. The lateness of the season in Italy. Bees seem rarely to swarm before the middle of May. 3. The marvellous docility of the Ligurian. I do nearly all my work without a veil and without a smoker. One day I got rather badly mauled—about twelve on my head (a reminder of Wickham Bishop)—but otherwise I have only had about a dozen stings.

The sugar-box hive is rather a teaser to drive from, especially as the natives put cross-bars as supports, and the bees build most diagonally, but I have never failed in transferring the bees from box to bar-frame, and once only have lost a queen, and from that hive I fancy it would require a prince of bee-keepers to have got the colony. All the colonies I have tackled have been in a healthy condition. I have seen no evidence of *B. alvei* or of dysentery. The chief nuisance is the moth grub, which simply swarms. It grows to about the same size as in England, but, having more hiding-places than in the "B.F." hive, is able to secrete itself more completely. I was pleased as well as surprised to find that the Italian bee passes with ease through the queen-excluder, though it appears to be of a slightly larger build.—With kind regards, yours sincerely,

T. I. Weston, Esq.

COMMENTS AND CAPPINGS.

SWARMS, STARTERS, SYRUP, SECRETION, AND SUNDRIES.

[6702.] Your correspondent Mr. Huxley (6696, page 176) criticises my treatment of his comb (6647, page 103). Courtesy compels me to blame the knife, although his "fork" is partly responsible, for had he not given me only the option of criticising his intelligence I should have defended my weapon. It is an old friend, and I am sorry if it has begun to

work badly. I will have it "stoned" for its sins.

However, if the knife be of no use for the purpose of getting at the honey in the comb, it may be because the honey is too thick, in which case the press must be used, only if the comb be crushed in the process the operator must not be blamed overmuch. Of course, there can be no honey in cappings if the knife does not cut deeply enough, and even then it must be strained! If I sometimes "strain a point" in the endeavour to arrive I must be forgiven by my friends of the B.B.J. But "Cappings" is not intended for "beginners," or at least not solely. As a matter of fact, I do not suppose that such have the patience to drain them!

The cells I have missed here seem to contain the fact that Mr. Huxley wrote for beginners; but he criticised "starters" without any qualification, and I endeavoured to make clear in simple terms their comparative value under special circumstances. I do not advise their use in a beginner's first hive! Their *raison d'être* is honey in saleable form, at any cost, even that of the brood-nest, where there is no time to satisfy both divisions of the hive. Then, too, I did not consider him to be fair in comparing his two cases. To one he gave drawn-out combs and a feeder, a vigorous young prolific queen, a splendid heather-time in Scotland (I hae ma' doots aboot this certainty), and, lucky swarm, the possession of a "master mind"!

To the other he denied help, and even hinted at "starters"; he made the young bees take three weeks to appear, and then feebly, as if this was unusual! And now, oh! final gift of pessimism, he inflicts upon them a "beginner"!

He appeared to praise a feeder as compared with a honey-flow, as if there was any comparison at all, and now, after comparing his cases, he asks me whether it is fair to compare them. My answer to this last is, of course, "Certainly not," and I tried to make this clear. As to the reduction of the desire to build comb in a swarm which has travelled far, I am open to correction; but does Mr. Huxley really disagree?

I may be basing the assertion on insufficient data, but I think that their ardour cools somewhat in keeping. Of course, it may be roused again, but here the question of feeding would apply equally to both the stated cases. After all, my words were, "The desire *may* be abated"; but I can only say that, of the two, I would rather have a swarm "hot from the hive" than one which had been confined for some days. Aye, every time! Which would Mr. Huxley rather have?

Did I thoughtlessly say that a hen *must* lay eggs, and a cow *must* give milk, and youth *must* sing? Well, I think that under favouring conditions it is so; and I believe that the young queen, under proper feeding, is obliged to lay eggs whether she will or no, only there is no question of her willingness. And, though I did not say so, I believe that a swarm has a natural desire to build comb which must be gratified or exhausted. Cases have been known where strong swarms have been put into fully-combed hives, and have built brace-combs in all available places. In other cases of similar provision the bees have swarmed out to where there was apparently more work to be done!—L. S. Crawshaw, Ilkley, May 6.

THIS SEASON'S HONEY.

A HOPEFUL PROSPECT.

[6703.] On examining one of my hives on Friday, April 26, above the brood-chamber of which I had left a rack of shallow-frames through the winter, I was agreeably surprised to find that the bees had filled, and mostly sealed, the combs in same, with this season's honey from fruit bloom. The hive was crammed with bees, so I at once gave them a rack of sections. Is not it rather extraordinary for bees to fill a rack of shallow-frames so early as the last week in April? I have two other stocks wintered in the same way, and, strange to say, they are my next strongest stocks. It may also be interesting to explain that the first-mentioned stock is one which I bought last year, and I learn that at the time I bought the hive the combs in brood-chamber had not been examined for about ten years. Yet from this hive I last year took a full rack of shallow-frames and forty-two 1 lb. sections. This was very good, I think; but they look like beating that weight this year. As a rule, stocks here seem to be more forward than they were in 1906 at this time. Referring to what our Kent friends are doing, as reported on page 166 (6685), I hope readers will believe this.—E. Ballard, Badsey, Evesham, April 29.

ROSS-SHIRE NOTES.

[6704.] *In the Apiary.*—Aided by genial weather, bees are bringing in large quantities of pollen, which must be badly needed, as the past few weeks were so unfavourable that the insects were seldom audible or visible. Advantage was taken of their enforced idleness to "evict" the "small holders" and plant them down in a new location. During the removal a few stocks were found to be somewhat lighter than expected, while others were inconveniently heavy with honey, which will necessitate equalising of stores at the first opportunity. All have wintered safely, and from outside observation appear to be above average condition. As

yet there has been no examination, and no spring feeding whatever.

Super Feeders.—In reply to "S. K." (6687, page 166), I find no disadvantage whatever in having stocks double-storied between seasons, but on no account is excluder to be left on over winter. As to queen-breeding from top to bottom of such doubled brood-nests, that is just what we want to build up strong colonies for the honey-flow. Then about twenty days before supering shut her majesty down by excluder, and the upper box, being thus cleared of brood, is removed and replaced by section-racks just as the honey comes in.

Painting Queens.—The brief reference by "D. M. M." (page 167) reminds me of a certain short-lived discussion that centred round this subject some time ago. I have never practised marking queens other than with the domestic shears, this operation serving the double purpose of identifying the queen and detaining (would-be) absconding swarms. Advocates of the paint-brush—Mr. Swabey in particular—might let us have the benefit of their experiences.—J. M. Ellis, Ussie Valley, May 5.

AN EXPLANATION.

[6705.] I fear that some misunderstanding exists as regards my remarks in the B.B.J. on giving a preference to home produce. Some of your correspondents who have commented thereon seem to think that I advocate Protection. I am not going to introduce this topic, but may be allowed to say that, as everyone knows, neither Protection, as in foreign countries, nor Free Trade, as in England, prevents human poverty and misery. I do not wish to be labelled either way. I have other views. Let me say, however, that I believe in each of us doing what he can to improve the country in which we live, and to develop it on right lines. I wish well to every nation, and that all may live in unity, peace, and concord, but if we neglect our own country we are not doing right. If our neighbour has goods to supply that are good value why should we go two hundred miles away for what we want? If he cannot supply what we require, by all means buy elsewhere. In my short notes to the B.B.J. I cannot, of course, occupy a lot of space in expanding my views, but am quite able to uphold what I believe; all I ask is that nobody should jump to conclusions from insufficient premises. I admit that there may be some reason for drawing deductions in the case under notice, but this explanation will show that such deductions are erroneous.—W. J. Farmer, Redruth, May 4.

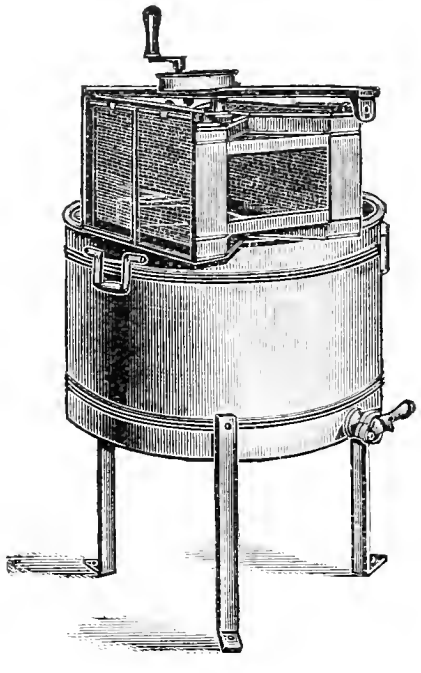
NOVELTIES FOR 1907.

THE "DREADNOUGHT" EXTRACTOR.

(Patent applied for.)

Messrs. Jones Bros., Andover, who have designed and manufactured the machine shown in illustration below, send the following particulars regarding its construction and the advantages claimed for it: — "Beekeepers are indebted to Mr. E. C. R. White, Newton Toney, Wilts, for the great advantage possessed in this machine. We had the pleasure of designing and manufacturing the first 'Dreadnought' during last season for Mr. White, who thoroughly tested it and found it successful in every detail."

In the "Dreadnought" the frames are placed in what may be termed a horizontal position as shown, thus allowing the following advantages over other extractors:—(1) Instead of being placed in a cage the combs are supported on a



skeleton framework and rest on the top-bar or metal ends (which need not be removed) in exactly the position they occupy when in the hive. This prevents the top-bar from becoming coated with honey, while the hands of the operator and the handle of the machine do not get sticky. (2) The supporting framework is more easily cleaned, being simple in construction, with no support for the frames underneath. (3) The cylinder is shortened without diminishing its holding capacity (70 lb.), owing to its increased diameter. The bottom of the cylinder is also more easily reached when cleaning. (4) Standing on legs, it enables the extractor to be securely fixed to the floor, and it has not to be lifted when draining off the honey. The legs bring the handle of the extractor

up to a convenient height for working and are easily removed when not in use. (5) The honey is extracted from the combs more thoroughly and quickly with this machine, owing to the fact that the frames can be spun round at a great speed without fear of damaging the combs. Mr. White writes as follows after a season's trial with the machine:—

The "Dreadnought" Extractor, as you have named it, made for me last season answered admirably, doing away with the messing of the top-bars of the frames, which I objected to so much with the old-style extractors. I also found that the honey was extracted more rapidly and with less danger of breaking new combs.

WEATHER REPORT.

WESTBOURNE, SUSSEX,
April, 1907.

Rainfall, 4·27 in.	Minimum on grass, 27° on 20th.
Heaviest fall, ·76 on 12th.	Frosty nights, 4.
Rain fell on 19 days.	Mean maximum, 53·3.
Above average, 2·59 in.	Mean minimum, 38·2.
Sunshine, 183·3 hours.	Mean temperature, 45·7.
Brightest day, 1st, 11·2 hours.	Below average, 0·3.
Sunless days, 3.	Maximum barometer, 30·37 on 23rd.
Below average, 1·2 hours.	Minimum barometer, 29·16 on 3rd.
Maximum temperature, 72° on 24th.	
Minimum temperature, 30° on 19th and 20th.	

L. B. BIRKETT.

Queries and Replies.

[3505.] *Glass Covers and Brace-Combs.*—One of my hives is absolutely full of bees. They fully cover both sides of ten frames, and are now building brace-combs between the frames and the glass cover. This, I begin to think, will be one of the drawbacks of glass covers, that is—the difficulty of accurately giving only a bee-space between the cover and the top of the frames below. But, seeing the crowded state of the bees in the brood-chamber, and their evident desire for more room, would you advise me to put on a super? I should much prefer honey to a swarm I am delighted with my glass covers, for I can at any time look into all the brood-chambers without disturbing the bees. I am feeding all my hives now with syrup, keeping their feeding-dishes full, with a good supply of water outside.—J. B. C., Loughborough.

REPLY.—Bees should not build brace-combs if a ¼-in. space is allowed between the top-bars and surface of glass. The weather has been too cold of late for honey-storing, but it will be well in view of the crowded state of your hive to remove the cover and give a box of shallow-frames above excluder-zinc.

[3506.] *Buying Bees in Skeps.*—I will be glad of your opinion on the enclosed comb, as I am in treaty for the purchase of five stocks of bees in straw skeps which have been offered me at the low price of 5s. each. But on sending for a sample of comb to judge from as regards condition, I received the sample enclosed, which, as you will see, is quite brown in colour. Should not the combs be white, as the skeps are supposed to be last year's swarms? Do you advise me to buy them if all the combs are brown like the piece sent?—G. H. M., Kent.

REPLY.—The comb sent is as clean and wholesome as one could wish to see. The merest novice at bee-keeping should remember that the only white comb in a hive is that which has never contained brood. If all the skeps are in similar condition to that from which your sample was taken they are a bargain at the price.

[3507.] *Working for Honey with Skeps.*—I have a skep and a cheese-box full of bees, but no skep appliances. Will you kindly outline the procedure you recommend for the coming season, honey being the chief consideration? How best could these be utilised in conjunction with other frame-hives?—"COL.," Wilts.

REPLY.—The skep and cheese-box can only be utilised as desired by preparing the frame-hive with full sheets of foundation and placing the skep and cheese-box respectively above the top-bars of frame-hive, as directed in the "Guide Book" under the heading of "Bees Transferring Themselves." On this method the bees, after removing their brood-nest below, will use the skep for honey-storing, and it may be taken away when full for extracting. The same will apply to the cheese-box.

[3508.] *Re-queening Weak Stocks.*—Will you please advise me through the B.B.J. on the following? I have a stock of bees which, owing to the queen being old, is rather weak. Otherwise the bees are better than any other stock in my apiary. They are larger, more robust, and active workers, and always finish off their sections neater than any of my other stocks, besides being quieter to handle. Therefore I do not want to introduce another queen, if you can tell me how to raise a successor from the present queen's eggs. As I have by me a small observatory-hive, I thought of removing the queen and two frames with bees to this, and allowing the stock to raise a new queen. Will this plan work out right, or shall I take two frames of brood and eggs from the stock, and put the small hive in place of the old one, and remove it elsewhere? Thanking you in anticipation.—NOVICE, Wye, Kent.

REPLY.—The simplest and best course for you to follow will be to remove the old queen and let the bees re-queen themselves from her own progeny. Both of the plans proposed above are faulty, and would not be likely to succeed. On the other hand, it cannot be expected that the new queen when fertilised will produce bees possessing all the good qualities of the present mother-bee, as much will depend on the drone the young queen mates with.

Echoes from the Hives.

Heswall, Cheshire, May 2.—A bitter-cold morning with a strong westerly wind and storms of hail and rain at intervals, and scarcely a bee to be seen, make one wonder how the bees are off for stores. Those who are in doubt will do well to give them a bottle of warm syrup and an additional wrap. By so doing they will reap their reward in the coming season.—J. ASTBURY, Cheshire, B.K.A.

TRADE CATALOGUES RECEIVED.

F. W. L. Sladen, Ripple Court Apiary, near Dover.—Mr. Sladen's tastefully got-up list of bees, queen-bees, and queen-rearing appliances is of especial interest this year as containing full particulars of the work he is doing in breeding first-class queens and bees by selection. Being entirely devoted to his special branch of bee-craft, all who are interested in the improvement of their stock should avail themselves of the information contained in Mr. Sladen's catalogue, which is unique of its kind in this country and full of interest for all intelligent bee-keepers.

M. Meadham and Sons, Bee Appliance Works, Hereford.—This small but concise list of bee-goods contains all the needfuls for an apiary. With nearly forty years' experience of hive-making and a qualified expert of the B.B.K.A (as Mr. Meadham has been for twenty years past), it is safe to say that no mistakes will be made in their hives, all of which are solidly built and of good type and make. Messrs. Meadham also make a speciality of washing machines, of which they are inventors and manufacturers.

Wm. Dixon, 5, Beckett Street, and 27, Central Road, Kirkgate, Leeds. — Mr. Dixon sends out an unpretentious little list, but one which seems to include everything a bee-keeper requires in bees, bee-hives, and appliances. For the convenience of customers residing out of town he has opened a central stores close to tram and train, in addition to keeping on his business address for twenty-two years past at Beckett Street, and Yorkshire bee-keepers will no doubt appreciate this advantage.

Bee Shows to Come.

May 28 to 31, at Maidenhead (Berkshire B.K.A.).—Show of Honey in connection with the Annual Exhibition of the Royal Counties Agricultural Society. Over £20 in prizes. Schedules from D. W. Bishop-Ackerman, Hon. Sec. Berks. B.K.A., 161, King's-road, Reading. **Entries closed.**

June 25 to 29, at Lincoln (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Special classes for the Lincs. B.K.A. only. Schedules from E. H. Young, Sec. B.B.K.A., 12, Hanover Square, London. **Entries close May 28.** Schedules and particulars for Lincs. B.K.A. classes from R. Godson, Hon. Sec. Lincs. B.K.A., Tothill, Alford.

July 17 and 18, at Burton-on-Trent.—Honey Show of the Staffordshire B.K.A. Special prizes, including five Open Classes. Prizes, 20s., 10s., and 5s. Single 1 lb. Jar and Section (entry free). Schedules from Joseph Tinsley, Expert, Chebsey, near Stafford. **Entries close June 22.**

August 8 to 10, at Barnsley.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. Schedules and form of entry from John Maughan, Secretary, Blake-street, York. **Entries close June 29.**

August 21, at Lancaster.—Show of Honey, &c., in connection with the Lancaster Agricultural Society's Annual Show. Open Classes for Extracted and Comb Honey, also Beeswax and Produce. Challenge Cup value £5 5s., also six silver and bronze Medals, and other Specials. Schedules from Thos. Armitstead and Son, Auctioneers, Lancaster. **Entries close August 7.**

PRESS CUTTINGS.

SPRAYING CAUTION.

Our contemporary *The Fruit Grower* gives the following caution to its readers which will be welcomed by bee-keepers:—"We have received several letters from correspondents who ask if they can continue spraying for pear-midge, plum-aphis, &c., when the bloom is opening on the trees. Also, if spraying will injure the bloom of bush-fruit under. In answer we say that it is not advisable to spray any tree or bush while in flower, as such a course endangers the gardener's friends, the bees; especially is this the case when arsenites are being used. The spray fluids will injure the sexual parts of the bloom, causing them to become sterile. So soon, however, as the petals are falling freely, spraying may commence again for aphis, but it is best to let the bloom get over entirely before spraying with arsenites, such as Paris green or arsenate of lead, on account of the bees."

WHAT A BROKEN WIRE DID.

There was a strange chapter of accidents at Keynsham, near Bristol, yesterday. An overhead electric wire broke, and one end coiled round a horse attached to a wagonette. The terrified animal, in its efforts to escape, smashed the vehicle, from which the occupants, two young women and a coachman, were thrown into the roadway.

The horse freed itself, bolted down the road, and dashed into the approaching carriage of Dr. Harrison, who, with the coachman, was pitched out. Dr. Harrison's coachman was shot over a hedge on to a bee-hive, which was upset. He was attacked by the bees, and severely stung. Meanwhile a passer-by, in trying to avert further trouble, incautiously seized the loose end of the wire, and received a severe shock. All the sufferers by the accident were greatly shaken, but luckily no limbs were broken.—*Daily Chronicle*, May 2.

TRAPPING QUEEN-WASPS.

In a garden at Lower Compton a fortnight since two bottles, containing beer and sugar, were hung on the wall against a pear tree coming into bloom. Last Sunday seventeen queen-wasps were taken from them. If this was generally known and adopted by fruit-growers it would save them very considerably from the damage done by these insects at the time the fruit is ripening, as each wasp destroyed now means one nest less in the autumn.—*Western Morning News.*

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

CAMBIST (Stamford).—*Dealing with Wax-Moth.*—Before you think of transferring combs from a colony "badly affected with wax-moth" as stated, the said combs must be got rid of, and none but those free from the pest used. All combs containing brood in a strong stock ought to be clear of the moth-larvæ, and may be left; the rest should be burnt! Then contract the hive to the space occupied with brood, and set it above the new hive, and let the bees transfer themselves to the frames of foundation below in the manner described in "Guide Book."

H. G. D. (Beverley).—*Soluble Phenyle.*—This preparation is exactly what its name implies, viz., phenyle made soluble. It may be obtained from the manufacturers, Morris, Little, and Co., Doncaster, whose advertisement appears in the "Guide Book," which you already possess.

H. B. (Stroud).—*Do Bees Injure Fruit?*—So far as bees being justly charged with injuring fruit-bloom and by so doing lessening the crop, the facts point quite the other way. One of our chief honey-producers in the Midlands is a fruit-grower on a large scale, and owns considerably over a hundred colonies of bees, which are located near to his fruit orchards for the purpose of increasing the crops. We could name other instances of fruit-growers bearing testimony to the great increase in the crops of fruit where the hives are numerous in their neighbourhoods.

J. C. (Hailsham, Sussex). — *Bee-Keeping in Australia.*—One of the drawbacks to successful bee-keeping in some parts of Australia is the eucalyptus tree, which grows abundantly in places. If you can settle anywhere near to the immense fruit farms now being rapidly established in Tasmania and elsewhere on that vast continent we have no doubt that bees would do well, and largely help to increase the output of fruit in addition to producing honey for home and export.

B. W. E. (Trowse).—*Choosing Bees for Clover District.*—1. There is no particular variety of bees specially suited for a clover district. On the other hand, if section-honey alone was to be worked for, our preference would be for the ordinary brown, or native, bee, because of its superiority over the foreign in capping the combs. 2. Comb sent contains nothing worse than pollen, some of it having become a little mouldy.

G. C. (Sheffield).—*Parthenogenesis in Bees.*—It is an admitted fact, connected with drone-breeding queens, that queen-bees, though not mated at all, have the power of producing drones possessed of all the faculties of the perfect, or normal, male bee. Parthenogenesis, or reproduction without fertilisation, was known to exist in certain insects, but not known in bees till Dzierzon published his theory on the subject in 1845. Since that time it has been familiar to scientists. Your recollection of Dr. Dallinger's teaching—on the fact that breeding could not take place without the coming togeher of the sexes—must be at fault.

NUCLEI (Bristol).—*Re-queening Stocks.*—It will be greatly to your advantage if, instead of suggesting new ideas with regard to re-queening and forming nuclei, you procure Mr. Sladen's book on "Queen-rearing and Forming Nuclei." This little handbook costs only 1s., and deals fully with both subjects you propose to deal with. In it you will have the best method of attaining the desired end, with illustrations showing how the work is done.

R. B. G. (Kent).—*Bees Dying in April.*—1. Without further information we are unable to explain "the cause of bees dying in large numbers in April." 2. What you call "eggs on piece of quilt sent" are not eggs at all, but small grains of débris commonly found on the undersides of quilts.

Suspected Combs.

G. J. MORRIS (Aberdare) —Comb contains nothing worse than pollen, a few cells of same being white with mildew on surface.

F. CARRIER (Sittingbourne).—Comb is full of hard mouldy pollen, and in consequence is useless for any purpose. All such combs should be burnt.

J. D. (Aberdare).—Above reply will fully answer your queries.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

A HIVE OF ITALIAN HYBRIDS FOR SALE.—Write, 13, The Circus, Greenwich. y 64

A FEW DOZEN NICE SECTIONS FOR SALE, 7s. dozen.—PULLEN, Ramsbury, Hungerford. y 65

PRIME NATURAL SWARMS FOR SALE this season as usual; orders now booked, 12s. 6d. and 15s. each.—PERCY WILKINS, Letcombe Regis, Wantage y 68

FOR SALE, EXTRACTED HONEY, in 14 lb. tins, 5d. pound; sample, 2d.—ARTHUR ADCOCK, Meldreth, Cambs. y 69

25S. EACH, six Strong Stocks of Bees, with one rack of Shallow Frames or Sections each, excellent strong condition, guaranteed healthy.—BENNETT, Heacham, Norfolk. y 71

OBSERVATORY HIVE WANTED.—Price and full particulars to MOIR, 30, Shandon-crescent, Edinburgh. y 70

FOR SALE, eight Stocks of Bees, in Frame Hive, good condition.—COTTINGHAM, Great Benham, Holbrock, Horsham. y 73

STRONG NATURAL SWARMS, guaranteed healthy, 12s. 6d., packed, safe delivery.—CADMAN, Codsall Wood, Wolverhampton. y 74

WANTED, at once, STRONG HEALTHY STOCK, on Standard Frames, for cash, cheap.—RICHARDSON, Pershore House, Pershore, Worcs. y 75

1CWT. OF HONEY, fair quality, in four tins, 42s., carefully packed; a few dozen Sections, 7s. 6d. to clear, glazed and carefully packed.—W. WOODLEY, Beedon, Newbury. y 76

ALMOST NEW "W. B. C." HIVE, complete. Cost 22s.; will take 17s.—SMITH, Leggatts Farm, Shenley, Barnet.

CLARIONET, B Flat, mahogany case, and tutor, perfect. Cost £5. Exchange for three or four good Swarms, or offer.—COX, 269, Belgrave-road, Birmingham. y 79

FOR SALE, BOXES OF SHALLOW FRAMES (with combs), Crates of Sections, Hive, and Sundries. Giving up Bee-keeping.—Apply WM. NEISH, Abernchil, Bridge of Weir. y 80

HUBER, two volumes, 1814, in French, perfect, with plates, bound, £1. — "Liscelta," Greystones, co. Wicklow. y 81

Special Prepaid Advertisements.—*Continued.*

CLOVER HONEY, splendid quality, 14 lb. tins, 7s. 6d., sample free; Bedding Geraniums, Jacoby, Vesuvius, Raspail, strong, hardy, autumn-struck, in 3 in. pots; Ivy Geraniums, white, pink, &c., named kinds; thousands of annuals, ready for planting, well hardened Stocks, Asters (Comet and Victoria), Lobelia, Scabious, &c.—Prices from BARNES, Roxby Apiary, Thornton Dale, Pickering. y 82

HEALTHY NATURAL SWARMS, 5 lb., 6 lb. weight, 2s. 6d. per lb.—DUTTON, Terling, Essex. y 83

QUEENS, 1906 sold out; orders booked for 1907 Queens, delivery after June 1st. See advt. page v. this week.—CHARTER, Tattingstone, Ipswich.

ORDERS BOOKED FOR SWARMS, 12s. 6d.; 13s. 6d., 1906 Queens; three-frame "Nuclei" 1907 Queens, 12s. 6d.; ditto, with Sladen's British Golden Virgin Queens, 13s. 6d.—W. WOODS, Normandy, near Guildford. y 84

A FEW CWTS. OF LIGHT, MEDIUM, and DARK COLOURED HONEY FOR SALE, in 28 lb. tins; samples, 2d. each.—W. HUXLEY, Aldford, Chester. y 66

HARRISON'S SPECIAL "RED HEATHER" BAR-FRAME HIVES, fitted with 10 Bar-Frames, Section Rack, Dummies, complete, 14s. each. Approval.—HARRISON, Bee Farm, Middleton, Pickering. y 72

QUEENS, Blacks, Carniolans, Italians, Golden-all-overs, by return post. We guarantee satisfaction with every Queen. Virgins of above ready June 1st, booking now. Our descriptive list, sent free, shows how to avoid getting an unsatisfactory Queen.—"CRUADH" APIARIES, Ballyvarra, co. Limerick. y 78

WANTED, HONEY. Exchange new fully-drawn Super Comb, also Hives, half price.—HORTON, Flixton, Manchester. y 67

SECTIONS WANTED, in any quantity (glazed). State lowest price delivered, and about when ready.—HONIELADE CO., 48, Bermondsey-street, London, S.E.

EGGS FOR HATCHING, from finest pens of utility birds: Black Minorcas, Brown Leghorns, White Leghorns, 2s. 6d. sitting, unfertiles replaced.—HARRISON, Bee Farm, Middleton, Pickering. x 41

FOR SALE, three dozen or less Section Crates, new, best makers, including Slotted Dividers and Glass, on rail Hull, 1s. 2d. each; also Case 500 Four-bee-way Sections, split top, 10s. 6d.—PEARSON, Ulrome, Hull. y 85

PROTECT YOUR FRUIT.—Tanned Garden Netting, only best quality supplied; order promptly, as nets are scarce and must be dearer; 25 yds. by 8 yds., 50 yds. by 4 yds., and 100 yds. by 2 yds., 9s. each; add 10 per cent. for other sizes. —L. WREN AND SON, 139, High-street, Lowestoft. y 64

WANTED, for Scientific purposes, QUEEN BEES and WORKER HORNETS. Will brother bee-keepers oblige?—HERROD, Apiary, Luton.

3 HANDSOME HIGH-CLASS WHITE WYANDOTTE COCKS, 5s. each.—HARRIS, Wavendon, Bletchley, Bucks. y 59

FOR SALE, 3 Stocks of Bees, in bar-framed Hives, with appliances.—MRS. HOLMES, Farley, Matlock. y 60

GILLIES MARVELLOUS CONTROL-CLOTH, in vest pocket case, with clearly printed instructions for manipulation of Bees; two delivered anywhere, 7d. stamps.—43, Dawson-street, Dublin. Agents wanted. y 61

MAY SWARMS, 3s. per lb.; June, 2s. 6d.—A. ADAMS, Tollard-Farnham, Blandford. y 43

Special Prepaid Advertisements.—*Continued.*

FOR SALE, 77 lb. Light Hampshire Honey, £2, carriage paid, tins returnable.—HILLIER, Hurstbourne, Andover. y 63

TILLEY'S PATENT ("Won't Leak") HONEY-COMB RECEPTACLES (Sections). Particulars post free; 2 lb. sample, 6d.—M. H. TILLEY, Bee Farm, Dorchester. y 42

WANTED, May Swarms of Woodley's Bees, 2s. 6d. lb., boxes provided.—NICHOLSON, Langwathby. y 46

HEALTHY NATURAL SWARMS, May, 3s.; Early June, 2s. 6d.; Late, 2s. per lb.; returnable box carriage forward.—THE PRESBYTERY APIARY, Marnhull, Dorset. y 44

FOUNDATION STRETCHING PREVENTED by "Nondescript" Device; better than wiring; every cell free for breeding. See Mr. Fraser's letter, March 7. Easy to make, costs next to nothing. Sample set, with directions, P.O. 1s. 1d.—W. PALMER, 174, Curzon-street, Netherfield, Nottingham. y 49

GUARANTEED STOCKS, 15s.; in Hives, from 22s.; Swarms, 12s.; delivered locally; Queens, 7s.—HANNAM, 70, Highgate-road, Birmingham. y 48

SWARMS BOUGHT. 2s. 6d. lb. given, delivered here; boxes supplied if required.—R. STEELE, Wormit Works, Dundee.

ITALIAN FIRST CROSS, best honey-gatherers, good-tempered; strong ten-frame Stocks, with last season's Queens, guaranteed healthy, this season's work, package free, 25s. each.—O. KNIGHT, Epney, Stonehouse, Glos. y 16

HIVES, 7s. 6d., satisfaction guaranteed, for 10 Standard-frames, double-walled, Brood body, back and front, 18in. by 16in., 9in. lift, telescope roof and porch; also Hives, ditto, 18in. by 18in., with dummy, sliding entrance, 9s. 6d.; cash with order.—COX, manufacturer, Smallbrook-street, Birmingham. y 28

SPLENDID GRANULATED HONEY, chiefly from Limes, 2 60 lb., 4 30 lb. tins. Offers wanted.—HUDSON, Crane Hill, Ipswich. y 29

QUEEN-BREEDING.—Mr. F. W. L. SLADEN has a vacancy for a pupil at Ripple Court Apiary, near Dover.

200 SWARMS WANTED, 2s. 6d. lb. given, carriage to be paid to Welwyn; boxes supplied.—E. H. TAYLOR, Welwyn, Herts.

31 ST YEAR, NUCLEI, 3 Frames brood Bees, and 1906 Queen, 12s. 6d.; case, 3s., or returned carriage paid.—ALSFORD, Expert, Haydon, Sherborne.

FINEST QUALITY LIGHT-COLOURED ENGLISH HONEY, in 7, 14, and 28 lb. tins; sample, 3d., post free.—C. DUNN-GARDNER, Fordham Abbey, near Soham, Cambs. y 9

SPLENDID SECTIONS OF BEST HONEY. What offers?—Rev. A. R. RUNNELS-MOSS, Ladywood Vicarage, Birmingham. x 98

SWARMS now booked, in rotation, May 12s. 6d., June 10s. 6d.—G. GILLETT, Prudential, Moreton-in-Marsh. x 95

DON'T FAIL to have one of my Hives before Swarms come; all Hives sent out are fitted with Frames and Sections with Starters, and painted. Cottagers, 8s. 6d.; "W. B. C.," 15s.—RANSOME, Hellingly, Sussex. x 93

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order.—EDWARD REYNOLDS, manufacturer, Andover, Hants.

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester.

Editorial, Notices, &c.

THE ROYAL SHOW AT LINCOLN.

EXTENSION OF DATE FOR CLOSING ENTRIES.

The weather of the last ten days has been more than usually erratic even for this country, a day of icy cold being followed by one of June-like warmth, when the temperature rose to something like 70 deg. Fahr. in the shade, only to fall again in a couple of days about 30 or more degrees.

We have little doubt that this variableness will have tended to stop many a bee-keeper from making an entry for the "Royal" show who under more favourable conditions would have entered an exhibit or two, and now be full of hope for success in June next.

In view of contingencies such as are mentioned above, we are glad to announce that the time for closing entries has—by request of the B.B.K.A.—been extended to May 28 at ordinary fees; also that provision has been made for return of entry fees in case adverse weather prevents honey of the current year being staged.

These facts and the exceptionally good condition of stocks in many places, together with abundant bee-forage everywhere, should induce many bee-men to apply at once for schedules, and thus maybe ensure a win for themselves while promoting the success of the most important bee and honey show of the year.

Schedules from E. H. Young, Sec. B.B.K.A., 12, Hanover Square, London, and for members of Lincs. B.K.A. R. Godson, Sec., Tothill, Alford.

SURREY B.K.A.

ANNUAL MEETING.

The annual meeting was held on Saturday, April 27, in the County Hall, Kingston. Archibald Seth-Smith, Esq., presided in the unavoidable absence of W. Welch, Esq., J.P., C.A. Among those present were Messrs. F. B. White (hon. sec.), A. Watkin, F. J. Bernau, W. Sole, A. E. Mumford, J. Kaehler, R. Mossop, A. H. Miller, Robert Peter, J. R. Aubry, A. Webster, A. T. Hedger, W. E. Hamlin, F. G. Marshall, S. Silvester, W. Clifford, G. Gregory, F. H. White, and others.

The report of the Executive Council and Joint Committee for the year showed satisfactory progress and a favourable prospect. One hundred and seventeen new members had been enrolled, the total membership being 653. As in former years, the grant of £150 from the Surrey Education Committee had been expended in carrying out the work of technical education in bee-keeping, *i.e.*, lectures and demonstrations, expert visits to bee-keepers, and the publication of the monthly journal. During the year the experts visited 574 bee-keepers and examined 3,171 stocks, viz., 2,725 frame-hives and 364 skeps; 79 cases of foul brood were found—a considerable decrease on last year's report. Indeed, the success attained in dealing with foul brood has been such as to warrant a continuance of the same. The financial statement showed total receipts amounting to £166 9s. 7d., and after deducting all payments a balance of £17 11s. 1d.

The Chairman, in moving the adoption of the report, said the association might congratulate themselves on the state of affairs. Ten years ago they had 270 members with 780 hives; to-day they had 653 members with 3,171 hives, which showed that good was being done in the county by that association. They might be quite sure that they would not succeed in that way if they had not a tolerably good organisation at work under the guidance of Mr. White.

The report was adopted.

A vote of thanks was passed to the Surrey Education Committee for the grant of £150 for the educational work of the association, and for the gratuitous use of rooms at the County Hall.

Votes of thanks were also passed to the retiring Executive Council, Joint Committee, and officers.

The following Executive Council were re-elected:—Messrs. A. Seth-Smith, F. J. Bernau, G. B. Bisset, W. A. Dawson, F. S. Fletcher, G. C. Halahan, W. E. Hamlin, John Kaehler, Joseph King, J. W. Lewis, A. H. Miller, W. F. Reid, W. Sole, E. Walker, A. Watkin, T. H. E. Watts-Silvester, and F. B. White.

The meeting closed with votes of thanks to the nine experts, to Mr. F. B. White, and to the chairman.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

THE OPENING OF THE CAMPAIGN.

[6706.] A new bee-season has now dawned even in late districts, while in earlier parts of the country apiarists are in the thick of the fight. Swarms are

coming off, bees are breeding splendidly, and supers are being taken to. With a continuance of our present glorious May weather and further development of sweet Flora's favours, bees should soon work up to great strength in good time for profiting to the full when the chief staple of honey-yielding—white clover—will be at its richest and best. Stocks have come out of winter quarters rich in stores, and with bees generally strong in numbers. Brood-rearing began early, and, although the area did not spread very extensively, quite a number of young vigorous bees were reared during late March and April, so there will be less than the usual amount of spring dwindling. Weather, though cold, allowed a good deal of pollen and water carrying to go on at regular intervals. At least, so much of both came in as allowed a continuity of brood-rearing. Prognostications point to a successful season in apiculture, and I for one am prepared to picture the present outlook in the rosiest of colours. Manufacturers are said to be working night and day. The number of swarms asked for and on offer is quite unprecedented, and the advertising boom in the JOURNAL is at high water-mark, showing the liveliest interest is taken in preparing for the campaign which has just opened. Bee-keeping is in the air!

Orthography.—The phonetic heading of my note was taken from Butler's edition of 1649. Hector Boece (or Boyce) lived over a century earlier, being born in Dundee about 1465. Trained in Paris, he became Principal of the new University of Aberdeen—his salary being the munificent sum of forty merks, or about £2 4s. 6d. sterling! His mode of spelling honey—*huny*—was almost universal at one time. Mr. Crawshaw allows it to pass muster, but objects to *beis*. The German *bein* follows this orthography; why should not *beis?* Why stickle at another *eye* when the insect has already five?—I had almost written *five thousand!*

Queens.—In selecting a queen-mother I would place her honey-gathering qualities high above any other trait, but the query arises in my mind—Have even the so-called "tested" queens ever been tested as to their abilities in this line? Certainly not in nine cases out of ten. After this trait I would place prolificness, with gentleness, perhaps, for the third recommendation. Looks I would place last, with three or four other good points, not enumerated, in between. Beauty is nice, yes, but it is only skin deep. A correspondent who some time ago believed in Goldens as *the* bee has discarded them as "*weeds.*" Another playfully calls them "*do-little*" bees, and banished them from his apiary, as (he said) he was cultivating a gift for profanity under their tuition! Yet a third designates them "undesirable aliens." My limited experience leads me to make it still more limited, and I have resolved to eliminate the foreign blood as quickly as possible.

I would fain wish that Mr. Weston should get his queen-breeding club. Even Mr. Carr and Mr. Sladen consider it theoretically right, and only doubt its feasibility on account of the difficulties, physical and otherwise, to be overcome. In my opinion the *vis inertiæ* of bee-keepers is the chief deterrent. A leading bee-keeper and advocate of the scheme writes me:—"To my mind membership of such a club would presuppose a certain keenness and ability in bee-keeping, and reports made by such men would have more weight than those of the same number of bee-keepers taken at hazard. The great advantage would be in the much wider possibilities of selection under careful supervision and in very varied circumstances. I do not say that good queens might not be passed over, but I am sure poor ones could not be chosen under the proposed system of reports on actual results produced.

Queen-breeders should avoid advertising queens in the JOURNAL at a date when they should know that they are not likely to be able to fill the orders sent. It is very irritating to be kept waiting at this season, week after week, while a queenless stock is fast running down to extinction. Such pin-pricks cause an unpleasant feeling, and do the craft harm.

Heather Exhibits.—It will be seen by schedule of Dairy Show, and advertisement thereanent, that the B.B.K.A. Council have reinstated the class for heather sections, and the entry is for half a dozen sections. This is, I think, a distinct gain, and I would urge heathermen to show their appreciation by taking full advantage of this offer. Several exhibitors in a given locality could pack and forward jointly, which would much lessen the carriage of package to London.

Exhibitions.—We are having a Dublin Exhibition, one in London, and one in Edinburgh later. I should like very much that a display of honey should form an interesting part of the industrial section of each of these great gatherings. It would be best if the exhibit of honey, &c., could be made a national one, and in that case it should be conducted under the auspices of the Central Associations in Dublin and London. Mere parochial effort is of no avail.

Spring Examination.—Where not yet overtaken, this should be attended to on

the very first fine mild day. Floor-boards should be cleared of all débris and scraped perfectly smooth and clean with a piece of broken glass held at an angle. Avoid interchanging these boards as much as possible. Defective combs should be taken out of the hive and run down into wax. In replacing frames give full sheets of foundation. Have a wary eye for any signs of disease, and note even any semblance of it, so that the hive may be kept under future observation as brood develops. In general such examination will be late this year, and wisely so, for pulling the brood-nest about too early is just the way to court disaster.—D. M. M., Banff.

SOME JOTTINGS ON BEE-LIFE.

[6707.] I have long seen from the B.B.J. how much difference of opinion there is between bee-keepers on many points, among which may be mentioned the advantage, or otherwise, of using queen-excluders under section-racks. Well, in view of this divergence, I last summer resolved to do without them, and not in a single instance did I find a section with discoloured cells, or any sign of brood having been raised in them; nor did I ever have the bees more readily enter the sections. For me, therefore, I say good-bye to queen-excluders. Evidently some of your correspondents have had another experience, but the reason for this is, I think, not hard to find. The large amount of syrup given in autumn as winter stores so fills the brood-combs that no egg-room is left for a good queen to lay in the height of the season. Consequently, she is driven up into the sections.

Then what varying opinions do we see expressed as to good and bad races of queens and bees! I have kept all sorts, and must have been among the first to try Italians. My first queen came from the late Mr. Neighbour, and I was perfectly amazed to see in how short a time the blacks had disappeared from the hive. There is not, in my opinion, so great a difference between varieties as some suppose. You get good and bad queens of all sorts. My best last year was a half-bred Italian, and the next a black. Many years ago a brother of mine as he returned from Sardinia—knowing my interest in bees—brought me what he believed to be a hive of Ligurians, but on removing the cover of entrance I was greatly disappointed to see a lot of black bees rush out. Yet this colony proved as strong as any I ever possessed.

I have not yet had a fair trial with Mr. Sladen's "Golden Italians," as last summer I was using my two stocks of these bees to raise queens from with which to requeen most of my stock. Out of some nine young queens so raised, I fear most, if not all, have mated with black drones, although plenty of yellow drones were flying at the time.

With regard to introduction of queens, I had a nucleus hive last year headed by a drone-breeder, and decided to try an experiment. I removed the drone-breeder and introduced a new queen at once right in the middle of the bees, having first tumbled her into a cup of flour so that she was well dusted all over. The bees immediately began to clean her up, apparently not noticing the change. When introducing young queens last summer I adopted a new plan, and it seems quite a success, as in every case the new queen was accepted. I first caught the old queen, and placed her in the introducing-box, along with two or three workers, over the feed-hole. The bees soon found her out, and soon the box was covered by bees clustering round the queen. I left her in this position for some hours; the bees meanwhile, being able to touch her with their antennæ through the perforated zinc, made no attempt to start queen-cells. I then removed the old queen and her worker companions, and put in her place the young queen from a nucleus colony, caging the old queen on the top of the nucleus hive in a similar manner. The young queen was left for some hours in the introducing-box, into which I then let in one or two bees to see how they would treat her. In each case she was accepted, and was then allowed to walk down through the feed-hole amongst her new subjects into the hive.

It will be seen that my way of introducing queens is different from that generally practised. I got the idea from a well-known bee-man in the North, and have never found it fail. I see all that goes on through the glass slides on top of my introducing-box, and when the bees attack the queen she can be removed. In one instance I was putting the old queen into a nucleus hive in which a young "Golden Prolific" queen had been raised, when the few bees I let in attacked her. I at once removed the queen out of harm's way, and on looking into the nucleus found queen-cells started. I had evidently left them too long without a queen. After the embryo cells were removed the queen was accepted.

It was glad to see in the B.B.J. of March 7 one of your correspondents standing up for the little blue tit. I am convinced it is a mistake to class it amongst the bee's enemies. As I have before said in these pages, they build close to my hives, and are in my garden almost daily through the winter, yet I never saw one touch a living bee nor yet a dead one. The amount of good they do may be

judged if we stand near their nest and see how often they return to it with their mouths full of the larvæ of various moths. But the case is quite different with the big tit (*Parus major*). I stood and watched the latter carrying off bee after bee whilst at work on the willows.

With regard to the various sounds made by bees, and referred to by your correspondent, I was again trying my "fishing," as your correspondent from Midlothian called it, with a young virgin queen. I had put down the mating-box in which I kept this queen with a few bees some few yards from the spot where I was standing, and between the box and myself was a row of evergreens. In removing the queen I had let out several workers, and the queen was seen to fall on the grass followed by three or four drones. I also observed two or three worker-bees had gathered round her. These were, I believe, those which escaped from the box, and had in some way managed to find their mother-bee. When I removed the queen these bees began hunting for her in all directions, but what struck me as strange was that the moment I let her fall on the grass, although they were some little distance off, they at once seemed to hear the peculiar buzz of the drones hovering round her, and hurried to the spot, getting between the queen and the drones as if to protect her from them. This happened time after time. Whether the queen uttered any sound I cannot say, but the peculiar buzz of the drones was heard distinctly, at which the queen seemed much agitated, and when they came too near she would repulse them with her hind-legs if the workers were not at hand at the moment to get between her and them. I am convinced these were her own bees, as I never had the same happen when the bees in the box with her were not let out, yet I was close to the hives with thousands of bees passing every moment. It was a most interesting sight to see the drones fighting round the queen, flying at one another and butting like rams. The big black drones seemed to come off best in the encounters. This may explain why it is hard to get pure Golden Italians.

"*Will Bee-keeping Cease to Pay?*"—I fear it will if some bee-keepers do not mend their ways. Not for many years have I had occasion to sell honey, but, having more last summer than was wanted for my own purposes, I tried to dispose of some clover-honey in sections. I found in Edinburgh 7½d. and 8d. was all I could get per 1-lb. section, and grocers seemed not to care to take it at this. In another large town I inquired in one or two shops and found them equally shy of anything but heather-honey. The reason for this appeared to be that much sold to them was mixed with sugar. One grocer said, "You are quite at liberty to use my name in reference to this practice." Another said he had given up taking flower-honey sections on this account.

Hive-entrances.—These are, to my mind, often made too deep, and so let in mice in winter. If they were only deep enough to let in and out the drones, would it not be better? The whole side of the hive can be opened in summer, and, if necessary, more ventilation can be given in middle of floor-board. When watching a swarm of bees in the air they seemed to dart about with amazing rapidity. But I don't think this is the case; in fact, they are flying quite slowly. If you watch one individual bee in its flight you will find that it is so, I think. The appearance of rapid flight arises from their passing one another. If they really shot through the air at the rate they appear to, how would such a mass steer clear of one another in their flight? No bee-man seems to know anything about the habit bees have of passing their two front legs over their antennæ on coming into the light at the entrance of the hive before taking flight. I think this is done without exception, although at times with great rapidity when they are very busy. I shall hope to notice this summer whether wasps have the same habit.—HUMBLE BEE, Bridge of Allan, N.B.

BEE-NOTES FROM DERBYSHIRE.

[6708.] An "echo" from the hives bears a promising sound, although there have been very few "bee-days" up to the present. The best bee-weather in our district came at Easter-time, April 22 to 24, and May 5 and 6. As is usual in our hilly county, we have much of the rough, cold weather which tells against the prosperity of stocks unless well cared for. However, as the result of a little nursing and feeding with warm syrup at regular intervals my own hives are now in first-class condition with plenty of brood and stores. The present spring has been quite as favourable as last, some hives being even stronger in bees. The frosts fortunately are also keeping off just now, and to-day as I write the bees are working hard on apple-blossom, which is looking very well hereabouts, although the orchards are not so numerous as a bee-keeper would like. After the late genial rain, there will, no doubt, be some good honey-storing done, if the sun will only shine forth.

The reports from Kent (page 166) and Evesham (page 185) are very interesting. They seem to be having good times in those districts. Notes like those make us more northern bee-men quite envious, as our season is very much later.

As a Derbyshire bee-keeper I naturally enjoy best of all the reports in the JOURNAL sent from our county, especially those from our friend Tom Sleight, Pilsley; and if this catches his eye, I hope he will write up to let us know how those stocks which did so well at the heather are progressing. Mr. Darrington's interesting report on page 176 shows what can be done when bees are hardy, numerous, and headed by prolific queens. I have heard of similar cases being found in this county. I do not think this hardiness alone would be sufficient to cure them were they affected with foul brood, however.

The bee-keeper mentioned on page 156 as owning 500 stocks must surely be the largest apiarist in this country. I have been wondering whether he ever contributes to the pages of the B.B.J., as his experience must be large, and he could no doubt give some useful hints to readers. If not, I hope he may be induced to do so.

Mr. Garcke's scheme of promoting bee-keeping, the result of which appeared on page 156, seems a very good and practical one, and will doubtless be a great success. It is very encouraging to know that Mr. Garcke is at the present time actively engaged as a member of the Council in connection with the work of the B.B.K.A. Such men as he form the backbone of the parent association.

I am very much interested in the progress being made just now by our county associations, and am hopeful of the Kent Association eventually becoming active again with a big membership and doing useful work.

I close somewhat rambling "notes" by saying how much I enjoy reading the pages of our JOURNAL. Mr. Crawshaw's humorous "cappings" are helpful and instructive, as are also the contents of the "comb" as supplied by our Scotch friends, "D. M. M.," J. M. Ellis, &c., along with "notes" from Mr. Woodley, "D. V. Dunaskin," and others. Hoping all bee-keepers will have a good season in 1907.—W. HENSON, Crewton, Derby, May 11.

BEE-JOTTINGS.

GATHERED FROM MY EXPERIENCE.

[6709.] I often feel that I should like to contribute a few notes or jottings, the outcome of experience in my varying apiary (according to sales) of 100 to 200 stocks. But I am a bit shy of appearing in print, being only in the thirteenth year of my apprenticeship. However, if you think the following will be of any service use it, otherwise there is the w.p.b. handy.

But to begin with my jottings. As a first item, let me say I have a 1907 queen safely mated and laying May 3, and three others over which I have been holding my breath in uncertainty for some days; but hope is now revived, and they may be all right. On this point I offer a word of advice: to ensure the young queens being mated so early, or in unfavourable weather, pick a few drones from perhaps the only hive that has them, and place these in the hive containing the young or hatching queen. I have had strong evidence in the past of two queens being mated in the hive after giving drones in this way during unfavourable weather. In one case the stranger drones were sent per post by Mr. Sladen at the end of September.

When breeding by selection, put your chosen drones into the hive the day following the hatching out of the young queen, then remove the hive to an isolated place some distance away. I have reason to believe the queen will not mate with drones of same scent as herself, if others are available, thus preventing in-breeding. I also advise bee-keepers to produce bees for the coming season by feeding with unsaleable honey. They will find it advantageous to do so.

With regard to co-operation for sale of honey, I fear the horse will starve while the grass is growing. In Lincs. our admirable secretary meets the want; but when will other counties follow suit? The successful bee-man will not give all his "tips" away. Can't afford, not even in "conference." We should begin at home; but too many neglect to cultivate the home market. I had difficulty in selling 7 lb. of honey in my first year of bee-keeping; last year I sold 2 cwt. at home.

Then with regard to the varying opinions about frames. We have advocates of frames deep, frames shallow, frames wide, and frames narrow. For myself, I say stick to the present standard; the breed tells, as with fowls and all stock, prolific or otherwise. I have both black and yellow bees that will fill a standard frame from end to end and top to bottom; other stocks that will always leave one or two inches of honey around three sides of the frames. I suppose they are providing for a rainy day. Wise bees!

Finally, I think that queens are bad observers of their own hives when they leave (as they sometimes do) on a spring flight. I find them often returning to other hives 50 yards away, sometimes to meet death, at others to supersede the inferior reigning queen. I also think that stocks unite best during a period of confinement to the hive.—F. W. S., Haconby, Lincs.

BREEDING BEES BY SELECTION.

[6710.] I think it quite as possible to breed black English bees by colour selection as any other race. There are very few districts where the yellow Italian bee has not been imported, and the result is the hybrid, which is very distinct from the old English black. If pure black virgins and pure black drones are taken to a district where there are only hybrids, and the progeny of the queens tested, those queens whose progeny show hybrid markings can be discarded, and those which show black progeny, having mated with black drones, can be retained.

I agree with the opinion of several other B.B.J. correspondents that it is high time some attempt were made to breed out foreign blood. Our bees have been crossed and re-crossed with foreigners too much. I have kept nothing but pure blacks for the last five years, discarding all except the queens producing blacks. My apiary is located in a poor honey district. There are only three stocks within two miles of me, over which I have no control, and as my hives turn out a considerable number of black drones these have doubtless fertilised the queens of these three stocks. My contention is that if English bees are bred from vigorous stock they are more capable of resisting disease than in-bred Italians or any other race.—W. E. Charter, Tattingstone, Ipswich.

STRAY SWARMS.

GOOD PROSPECTS IN ESSEX.

[6711.] I got a stray swarm of the enclosed bees yesterday weighing 5¾ lb. I shall feel much obliged if you will tell me if they are Italian or Carniolan hybrids? I believe the swarm came from the roof of Netteswell Rectory, as I got it about 300 yards from there. What puzzles me is that I got a stray swarm from about the same spot two years ago which were pure blacks. I know no one in the immediate neighbourhood who keeps any foreign bees. The queen has no distinct yellow bands on the abdomen, most of the back is buff-coloured, the last segment being black or dark-brown. The one drone I saw in the swarm was black. I have never had my bees so strong as they are this year so early in the season. I have already got thirteen stocks storing in surplus-chambers and others ready for supering. — G. F. O'Fflahertie, The Hermitage, Netteswell, May 13.

[Bees sent are first-cross hybrid Italians; the description of queen leads to the assumption that she is a "leather-coloured" Italian; probably a pure queen of that particular variety of foreign bees. The fact of one black drone being seen with the swarm counts for nothing, as drones occasionally join any swarm that happens to be in flight when they are on the wing.

Very pleased to hear of your bees doing so well; it augurs well for a good season in Essex.—Eds.]

PARTHENOGENESIS IN BEES.

[6712.] Referring to your reply to "G. C., Sheffield," in last week's B.B.J. (page 189), may I say that St. Augustine, Bishop of Hippo, in his treatise "De Bono Congali" (written at least 1,500 years ago) remarks "*who was able to bestow on bees* a progeny without sexual intercourse." I am sure this communication will be of interest to yourself and to Bee Journal readers.—(Rev.) W. Dennett, Maghull, Liverpool, May 9.

BEE-STINGS AND RHEUMATISM.

AN INTERESTING EXPERIENCE.

[6713.] For four months I suffered greatly from rheumatism pains in my legs and feet, being at times quite unable to walk. It started in the hips and gradually spread to the ankles, and so severe was the pain at times that sleep was impossible for some hours after retiring to bed. This got worse until one night at the end of December last, during which I never got a wink of sleep. In desperation I next morning went to one of my hives and secured a few bees in my net, and, sitting by the fire, applied nine bees one by one in such a way as to cause them to sting one of my feet near the ankle. I left the stings in the flesh, and placed my feet in hot water. In doing so I had some vague hope of getting relief, at least in one foot, but never expected such instant effect as followed, and in a few minutes every vestige of pain had left both legs and feet. Five months have now passed since what I state above without a single trace of any pain being felt. I might also say that the pain of nine stings was hardly any more than that of one, and didn't trouble me at all.

Should you think this sufficiently interesting for publication in the B.B.J., I will be glad to give fuller information or answer any questions on receipt of a stamped and addressed envelope.—H. Rhys, Redbrook, Monmouth, May 13.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of April, 1907, was £3,645.—From a return furnished to the British Bee Journal by the Statistical Office, H.M. Customs.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Truth in a Well (page 171).—Well! Just as we had decided that it lived, like Diogenes, in a butt! But truth has strange guises, which may explain why there are so many strangers to it, and strange homes, which may account for the fact that in this conventional age it sometimes becomes a butt! If the proverb says truly that truth lies in a well, and can only be seen when one lies extended at the mouth, this must be why we are "prone" to accept the coolest lie as the truth. How many a sincere inquirer has, mentally, "kicked the bucket" in his endeavour to reach the truth; whilst of those who search no further than the echoing mouth of the well, how few but are deceived in their discoveries, the which are more easily recognised by them as true if they, upon reflection, appear to flatter the observer. Anyhow, it is good to know where truth rests, so that we grow not weary in well-doing in "the toil of dropping buckets into empty wells, and growing old in drawing nothing up." Well! So long as truth is to be found there the search for it need not be a dry one!

Theory or Fact (page 172)?—"Reasoning from the known to the unknown, we deduce what we call a *fact*." Should not this rather read "theory"? Thus, the evolution of the bee may be a fact, but our knowledge of it, reasoning from known facts, is surely theoretical.

Spiral Flight of Queen (page 172).—Who can follow with his eye the flight of the queen? Certainly it appears to begin with this spiral route, and why should it not continue? Maybe this is a very near guess at the truth. Queens have been seen to fall mated within the precincts of the apiary; but from what height? It is also extremely likely, "reasoning from the known," that the queen is intensely attractive at this time. The drone especially has highly-developed senses of sight, hearing, and scent. All of these may guide him in his quest. But, even so, he may make mistakes, and I have heard of an aërial cluster of follow-my-leader drones excitedly disputing over an embarrassed worker-bee!

Drones' Flight (page 173).—Whether drones fly a full mile or not, they may easily be able to see that far and locate their old home, so that this distance of removal may not prove that they fly so far. Fertilisation at three miles does not make certain which of the parties to it travelled the distance. In the insect world the burden of search seems to be laid upon the male, and it is reasonable to suppose that those queens which mate near home run fewer risks, and so transmit the tendency. But what says the well?

New Bee Disease (page 181).—This report seems very much like that from the Isle of Wight. Has the original nidus of the I.O.W. outbreak been located, and, if so, can it be further traced to Switzerland? I have just been favoured with an I.O.W. paper, which contains several references. It is very satisfactory to learn that the Board of Agriculture are making investigations, and have sent a special inspector over to the island.

Honey Imports (page 182).—Is it possible that the increase is due to the modern health-teachings? Many of these recommend the use of honey in the dietary. If so, bee-keepers should assist the good work by further articles in the Press, and by attractive pamphlets on the subject. Surely there would be a demand for a brochure which could be stamped with the name of the bee-keeper. The import returns may be affected by manufacturing trades. I am informed that a large quantity of honey is used in patent blackings and for harness dressing.

Strong Stocks (page 185).—It is not altogether surprising to find that a stock which has survived ten years' inattention should be a strong one. Natural causes tend to exterminate the weak and unfit. We interfere with these largely to our own hurt. If we were to cease to bolster the weak, from mistaken ideas of the humane, the race would benefit. One weak stock is more trouble than several strong ones, and comparatively unprofitable. Why should we not ruthlessly insist that all our stocks be strong and profitable?

Queries and Replies.

[3509.] *Bees Dying in May.*—I send you some bees and pieces of comb taken from a hive in which I found the bees all dead to-day, though a few days ago about a hundred or so were still alive. I drove two swarms rather late last year, fed with syrup as much as they would take, but they did not take much, and again this spring they would hardly take any syrup. I also put several frames of empty comb and other frames fitted with foundation, but the bees hardly did anything to add to either. The pieces of comb are from two of the frames which I got from an advertiser in your pages. I therefore ask: 1. Is there anything wrong with the comb, and why did the bees die with food ready? There were eight frames altogether. I found no queen. 2. About a couple of weeks earlier I drove two similar lots into another hive, and they are doing very well. Why is there so much difference in results?—W. H. W., Pewsey, Wilts.

REPLY.—1. The bees have died from cold and want of food. The conditions under which the driven bees were packed for winter almost precluded any chance of their surviving. They should have had 15lb. or 20lb. of good syrup food given

in time for them to seal the food over before winter set in. Besides, to give bees frames of foundation in early spring is only to court failure. There is no disease in bits of comb sent; nothing worse than mouldy pollen in a few cells, and no sign of food. Therefore a few days of cold weather sufficed to kill the bees off. 2. The fortnight earlier start in autumn made all the difference in the two cases.

[3510.] *Single v. Double Walled Hives.*—Will you kindly tell me how to put the frames in a hive made to take fifteen standard frames? I have one by me which does not seem to answer. The frames run parallel with the entrance, and the bees work well enough in the front eight or ten frames, but will not go to the back of the hive and occupy the remainder. They swarm rather than do so. It is a single-walled hive (the maker preferred this), made of best red deal, 1in. thick. I thought it would do to make an entrance at the side, leaving the frames in the same position as now, and closing the present entrance. 1. Can you suggest any other way of doing it? 2. Do you consider that a single-walled hive is as good and works so well as one with an air-space all round if made out of inch wood? I send name, and sign—BAWSEY, Lynn.

REPLY.—The frames cannot hang in any other way than parallel to entrance unless you do as proposed—*i.e.*, cut an entrance in side and stop up the proper one. It is, however, working on wrong lines to have an entrance at the hive side instead of front. Why not insert a close-fitting dummy in rear of the tenth or eleventh frame and leave the entrance as before, removing the surplus frames altogether? 2. Personally we could not recommend a double-cased hive made wholly of inch-thick red deal, and there is no need for such heavy timber if an air-space is allowed on all sides; ½-in. or at most ⅝-in. wood is quite strong enough for all purposes.

Bee Shows to Come.

May 28 to 31, at Maidenhead (Berkshire B.K.A.).—Show of Honey in connection with the Annual Exhibition of the Royal Counties Agricultural Society. Over £20 in prizes. Schedules from D. W. Bishop-Ackerman, Hon. Sec. Berks. B.K.A., 161, King's-road, Reading. **Entries closed.**

June 25 to 29, at Lincoln (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Special classes for the Lincs. B.K.A. only. Schedules from E. H. Young, Sec. B.B.K.A., 12, Hanover Square, London. **Entries close May 28.** Schedules and particulars for Lincs. B.K.A. classes from R. Godson, Hon. Sec. Lincs. B.K.A., Tothill, Alford.

July 17 and 18, at Burton-on-Trent.—Honey Show of the Staffordshire B.K.A. Special prizes, including five Open Classes. Prizes, 20s., 10s., and 5s. Single 1 lb. Jar and Section (entry free). Schedules from Joseph Tinsley, Expert, Chebsey, near Stafford. **Entries close June 22.**

August 8 to 10, at Barnsley.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. Schedules and form of entry from John Maughan, Secretary, Blake-street, York. **Entries close June 29.**

August 21, at Lancaster.—Show of Honey, &c., in connection with the Lancaster Agricultural Society's Annual Show. Open Classes for Extracted and Comb Honey, also Beeswax and Produce. Challenge Cup value £5 5s., also six silver and bronze Medals, and other Specials. Schedules from Thos. Armitstead and Son, Auctioneers, Lancaster. **Entries close August 7.**

August 21, at Radstock.—Annual Show of the Somersetshire B.K.A., in connection with the Radstock Horticultural Association. Seven open and two free classes; good prizes. Schedules from Herbert J. Moore (Show Secretary), Foxcote, Radstock. **Entries close August 14.**

EARLY SWARMS.

Reports have reached us of large swarms having issued from the hives of readers between May 6 and 12 in districts widely apart, ranging from Ealing, London (several reports from this neighbourhood), to the Midlands and from West Cheshire. In the latter place the first or second week in June is considered fairly early for swarms; but all tends to show the forward condition of hives all round.

WEATHER REPORT.

April, 1907.

	Temperature. Average Max.	Average Min.	Total Rainfall. in.
1st to 10th ...	55.4 ...	35.6 ...	1.89
11th to 20th ...	51.9 ...	35.7 ...	1.40
21st to 30th ...	55.3 ...	39.4 ...	1.15
	54.2	36.9	4.44

Thunder on 8th, 9th, and 10th. Highest maximum temperature, 70 deg. on 25th; lowest maximum temperature, 42 deg. on 27th; lowest minimum temperature, 31 deg. on 27th. Cold N.W. winds and rain on every day of the last week of April.—From observations taken by Mr. STANLEY BUTLER, Hook, Hants.

HOW TO DESTROY QUEEN WASPS.

The enclosed press-cutting, taken from *Country Life*, might be of advantage to readers of the BRITISH BEE JOURNAL as dealing with a matter of great interest to bee-keepers, who, we all know, are much troubled with depredations on their bee-hives at certain seasons of the year. I, therefore, send it on, hoping you will give brother bee-keepers the benefit of it. —D. COLE, Cole Green, Hertford.

[We gladly give our readers the benefit of so useful a hint by inserting it below. —EDS.]

TO THE EDITOR OF "COUNTRY LIFE."

SIR,—I was reading in your issue of November 17 the complaint of "A. P. S., Quetta," about wasps' nests. I do not think many people know that the white perennial cornflower (Centaurea) is a perfect trap for the queen wasps in the months of May and June. We are little troubled with wasps' nests now that we know of this. My gardener destroyed over 100 queen wasps this year. He catches them on the Centaurea with a strong glove and crushes them in his hand. I shall be glad if this information is of use to your readers.—A. WILSON, Westmeath.

Notices to Correspondents.

CANTAB (Cambridge).—*Preventing Granulation in Honey.*—Beyond storing in a warm, dry cupboard, where the temperature will be nearly equable between 60 and 70 deg. Fahr., nothing can be done to prevent granulation sooner or later.

J. ANDERSON (Dumfries).—*Drone-breeding Queens.*—The trouble apparently arises from a drone-breeding queen. There is no disease in comb; nothing but drone-brood appears, and all in worker-cells. The stock is consequently worthless, as the worker-bees will all be old and be dying off rapidly in consequence.

W. M. (Withernsea).—*Examining Hives Indoors.*—It was quite contrary to good management to remove the hive to an outhouse for examining its condition. The bees taking wing would of course miss their home, and naturally fly about wildly, as stated. If the smoking was overdone it might tend to cause the bees to cluster about instead of re-entering the hive after replacing the latter. Beginners should never overhaul hives late in the evening, or unless the bees are flying freely; to do so often causes an upset such as occurred in your case.

SAINFOIN (Lechlade).—*Taking Bees One Mile to Pasturage.*—1. In view of the trouble of looking after hives a mile away during the busy working season, we do not think it advisable to incur the expense and extra labour involved. No doubt forty acres of sainfoin grown for seed is a tempting bee-garden to set the hives down upon, but the bees would soon find out the spot, and the journey to and fro would only occupy them a few minutes, so that the lost time in travel would be more than counterbalanced in other ways. 2. Boxes for sending swarms by rail must be well ventilated. A hole 8 in. by 4 in. in each side of box, covered with perforated zinc on the inside, should make the bees safe against suffocation, but great care in packing is needed.

C. S. (Hildenboro').—*Transferring Bees.*—The present time is suitable for transferring bees from skeps and odd-sized hives into those taking the standard frame. The directions given in "Guide Book" for allowing the bees to transfer themselves will be the safest and best for you to follow.

H. AND K. (Eastchurch).—*Naphthaline and Wax-Moth.*—If the moth infesting your hives is the true wax-moth (*Galleria cereana*) naphthaline is of no use in getting rid of the trouble, nor is it put in hives for that purpose at all.

H. PERCIVAL (Manchester).—*Building out Shallow Combs for Surplus.*—When getting shallow frames of comb built for storing in later on they should be given in bulk in the ordinary frame-box, not given singly in centre of brood-nest. Not only so, but the queen must be kept out of the box by the excluder. Your plan was therefore faulty at the outset.

Suspected Combs.

H. H. B. (Lincs.).—Sample sent shows a pronounced case of foul brood of old standing. To spray such combs with Izal would do no more good than spraying with water. Disinfectants have no effect whatever on the spores of foul brood, and there are myriads of spores in your sample.

ENQUIRER (Warwick).—The hive referred to is badly affected with foul brood of bad type. It is no use trying to cure a stock with five frames in same condition as sample. We should promptly burn the lot for the sake of your other colonies, to say nothing of the risk run in keeping such a stock at this season.

CONSTANT READER (Thrapston).—There is no disease visible in comb, nor, indeed, any trace of brood at all. The cells contain only hard, mouldy pollen.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

NATURAL SWARMS, from Frame Hives, 100 lb. last season; Young Queens, 12s. 6d. and 15s. each. Orders in rotation.—GALE, Laureston-gardens, Douglas, I.O.M. z 12

BRITISH WEED FOUNDATION, Brood 2s. 6d. lb., Super 2s. 10d.; 5 lb. upwards, 1d. lb. off; postage 4d. 1 lb., 1d. lb. after; Hives, 7s. 6d., 18 by 16, for 10 Standard Frames, double-walled back and front, 9 in. lift, telescope roof, and porch; also Hives, ditto, 18 by 18, with dummy, sliding entrance, 9s. 6d.; Self-adjusting Frames, 1s. 2d. doz., 8s. 100, post. 5d.; "W. B. C." Ends, 3s. gross, post 4d.; everything for Bee-keepers. Catalogue stamp. Cash with order.—COX, Manufacturer, Smallbrook-street, Birmingham. y 28

TO BE SOLD CHEAP, 3 Stocks of Bees, in good Hives, well painted, and interlined with asbestos; also extra Hives, Frames, Sections, Geared Extractor, Honey Ripener and Strainer, Honey-jars, and other Bee appliances; many quite new. Worth over £20; will sell for £8 the lot.—Particulars from M. HARDINGHAM, 49, Haydon Park-road, Wimbledon. z 10

SWARMS, 2s. 6d. per lb., on rail; packages returnable.—PEPPER, Guide Post, March. z 9

STRONG, HEALTHY TOMATO PLANTS, Holmes' Supreme, Up-to-Date, and Laxton's Open Air, 1s. dozen; Chapman Honey Plants, 1s. dozen; post free.—F. W. GELDER, Sturton, Lincoln.

FOR SALE, 8 Bar-Framed Hives and Bees, with Sections and Section Crates; Veil, Gloves, Smoker, &c., &c., owner giving up, must sell. No reasonable offer refused.—Apply by letter for particulars to H. HART, 351, King's-road, Chelsea, London, S.W. z 7

GUARANTEED HEALTHY STOCKS OF BEES, on 8 Standard Frames, 1906 Queens, £1 each, free on rail; travelling boxes, 1s. 6d. extra, or returnable.—JOS. ROWLAND CLIFF, Holbrook, Derby, Expert Derbyshire B.K.A. z 6

NATIVE QUEENS, splendid, laying, guaranteed 1906, 4s.—A. J. BUTLER, F.R.H.S., Scotter, Lincoln. z 5

WANTED, QUEEN-REARING OUTFIT, immediately. State articles and price.—WOOD, Bottisham, Cambs. z 4

30TH SEASON.—STOCKS, SWARMS, NUCLEI, and QUEENS, imported Italians, 7s. 6d.; British, 5s.—E. WOODHAM, Clavering, Newport, Essex. z 3

1906 QUEENS, Woodley's Strain, guaranteed safe arrival; in safety-introducing cage, 4s. 6d. each.—TOLLINGTON, Woodbine Apiary, Hathern, Loughborough. z 2

NATURAL SWARMS, 2s. 6d. per lb., for sale; also 40 lb. of Honey, 4d. per lb.—J. WAYMAN, Cottenham, Cambridge. z 1

STRONG STOCK OF BEES, in Taylor's Twentieth Century Hive, £1, a bargain; purchaser to remove.—E. HOWARD, 6, Drewstead-road, Streatham. y 99

SHALLOW FRAMES, with Combs, all used last season, quite clean, four boxes 18s., or 5s. each, with Excluder Zinc, 6d. each extra.—GREENING, Eversley, York-road, Woking. y 97

SHALLOW FRAME SUPERS, with 8 clean extracted Combs, 7s. 6d.; Champion "Never Swarm" Hives, 20s.; "Never Swarm System," 12 years' absolute success, 3½d., free.—HARRIS, Wavendon, Bletchley, Bucks. y 96

TWO MACHINE-MADE COTTAGERS' HIVES, perfect condition, 7s. 6d. the two; two home-made "W. B. C." pattern, 7s. 6d. the two.—G. DENTON, 238, Parchmore-road, Thornton Heath. y 94

Special Prepaid Advertisements.—*Continued.*

NATURAL SWARMS, May, 3s.; June, 2s. 6d. per lb.—WAIN, Thorpe Bank, Wainfleet. y 98

BEST WARWICKSHIRE HONEY, in 1 lb. jars and 14 lb. tins. What offers?—R. MEADE, Dunchurch, Rugby. y 95

FEW MAY AND JUNE NATURAL SWARMS for sale.—W. A. TALL, Darcy Lode, Manea, Cambs. y 93

3 NEW "W. B. C." HIVES, 12s. 6d. each.—PRITCHARD, Wainalong-road, Salisbury. y 92

COLLECTION of 770 FOREIGN STAMPS, all different, in large album, £3, or exchange for Hive of Bees and £1.—MELSON, Camp-road, Freshwater, Isle of Wight. y 91

BEAUTIFULLY MARKED BELGIAN HARES, 6 weeks old, from pedigree parents, 1s. 6d. each.—HUNT, Tipton St. John, Devonshire. y 90

NATURAL SWARMS of my hardy prolific strain English Bees, not less than 4 lb., 12s. 6d.; 5 lb., 15s.; 6 lb., 18s.; packages to be returned, ready in about fortnight; guaranteed healthy and safe arrival. Orders booked now executed in rotation.—WHITING, Apiaries, Hundon, Clare, Suffolk. y 89

NATURAL SWARMS, May 12s. 6d., June 10s. 6d., carriage paid; return empty boxes.—MISS MARSHALL, Sutton Vicarage, Ely. y 88

HEALTHY MAY AND JUNE SWARMS, 10s. 6d.—G. TURL, Whitford, Axminster, Devon. y 87

FOUNDATION-STRETCHING PREVENTED by simple device. Sample set, with directions, P.O. 1s. 1d.—W. PALMER, 174, Curzon-street, Netherfield, Nottingham. y 86

QUEENS, Blacks, Carniolans, Golden-all-overs, and Italians, by return post; every Queen guaranteed satisfactory; Virgins of above ready June 1; book now. Descriptive list free.—"CRUADH" APIARIES, Ballyvarra, co. Limerick. z 11

A HIVE OF ITALIAN HYBRIDS FOR SALE.—Write, 13, The Circus, Greenwich. y 64

25S. EACH, six Strong Stocks of Bees, with one rack of Shallow Frames or Sections each, excellent strong condition, guaranteed healthy.—BENNETT, Heacham, Norfolk. y 71

STRONG NATURAL SWARMS, guaranteed healthy, 12s. 6d., packed, safe delivery.—CADMAN, Codsall Wood, Wolverhampton. y 74

1 CWT. OF HONEY, fair quality, in four tins, 42s., carefully packed; a few dozen Sections, 7s. 6d. to clear, glazed and carefully packed.—W. WOODLEY, Beedon, Newbury. y 76

CLARIONET, B Flat, mahogany case, and tutor, perfect. Cost £5. Exchange for three or four good Swarms, or offer.—COX, 269, Belgrave-road, Birmingham. y 79

CLOVER HONEY, splendid quality, 14 lb. tins, 7s. 6d., sample free; Bedding Geraniums, Jacoby, Vesuvius, Raspail, strong, hardy, autumn-struck, in 3 in. pots; Ivy Geraniums, white, pink, &c., named kinds; thousands of annuals, ready for planting, well hardened Stocks, Asters (Comet and Victoria), Lobelia, Scabious, &c.—Prices from BARNES, Roxby Apiary, Thornton Dale, Pickering. y 82

QUEENS, 1906 sold out; orders booked for 1907 Queens, delivery after June 1st.—CHARTER, Tattingstone, Ipswich.

HARRISON'S SPECIAL "RED HEATHER" BAR-FRAME HIVES, fitted with 10 Bar-Frames, Section Rack, Dummies, complete, 14s. each. Approval.—HARRISON, Bee Farm, Middleton, Pickering. y 72

EGGS FOR HATCHING, from finest pens of utility birds: Black Minorcas, Brown Leghorns, White Leghorns, 2s. 6d. sitting, unfertiles replaced.—HARRISON, Bee Farm, Middleton, Pickering. x 41

Special Prepaid Advertisements.—*Continued.*

SECTIONS WANTED, in any quantity (glazed). State lowest price delivered, and about when ready.—HONIELADE CO., 48, Bermondsey-street, London, S.E.

HEALTHY NATURAL SWARMS, 5 lb., 6 lb. weight, 2s. 6d. per lb.—DUTTON, Terling, Essex. y 83

FOR SALE, three dozen or less Section Crates, new, best makers, including Slotted Dividers and Glass, on rail Hull, 1s. 2d. each; also Case 500 Four-bee-way Sections, split top, 10s. 6d.—PEARSON, Ulrome, Hull. y 85

PROTECT YOUR FRUIT.—Tanned Garden Netting, only best quality supplied; order promptly, as nets are scarce and must be dearer; 25 yds. by 8 yds., 50 yds. by 4 yds., and 100 yds. by 2 yds., 9s. each; add 10 per cent. for other sizes.—L. WREN AND SON, 139, High-street, Lowestoft. y 64

WANTED, for Scientific purposes, QUEEN BEES and WORKER HORNETS. Will brother bee-keepers oblige?—HERROD, Apiary, Luton.

3 HANDSOME HIGH-CLASS WHITE WYANDOTTE COCKS, 5s. each.—HARRIS, Wavendon, Bletchley, Bucks. y 59

GILLIES MARVELLOUS CONTROL-CLOTH, in vest pocket case, with clearly printed instructions for manipulation of Bees; two delivered anywhere, 7d. stamps.—43, Dawson-street, Dublin. Agents wanted. y 61

TILLEY'S PATENT ("Won't Leak") HONEY-COMB RECEPTACLES (Sections). Particulars post free; 2 lb. sample, 6d.—M. H. TILLEY, Bee Farm, Dorchester. y 42

WANTED, May Swarms of Woodley's Bees, 2s. 6d. lb., boxes provided.—NICHOLSON, Langwathby. y 46

HEALTHY NATURAL SWARMS, May, 3s.; Early June, 2s. 6d.; Late, 2s. per lb.; returnable box carriage forward.—THE PRESBYTERY APIARY, Marnhull, Dorset. y 44

GUARANTEED STOCKS, 15s.; in Hives, from 22s.; Swarms, 12s.; delivered locally; Queens, 7s.—HANNAM, 70, Highgate-road, Birmingham. y 48

SWARMS BOUGHT. 2s. 6d. lb. given, delivered here; boxes supplied if required.—R. STEELE, Wormit Works, Dundee.

ITALIAN FIRST CROSS, best honey-gatherers, good-tempered; strong ten-frame Stocks, with last season's Queens, guaranteed healthy, this season's work, package free, 25s. each.—O. KNIGHT, Epney, Stonehouse, Glos. y 16

SPLENDID GRANULATED HONEY, chiefly from Limes, 2 60 lb., 4 30 lb. tins. Offers wanted.—HUDSON, Crane Hill, Ipswich. y 29

QUEEN-BREEDING.—Mr. F. W. L. SLADEN has a vacancy for a pupil at Ripple Court Apiary, near Dover.

200 SWARMS WANTED, 2s. 6d. lb. given, carriage to be paid to Welwyn; boxes supplied.—E. H. TAYLOR, Welwyn, Herts.

FINEST QUALITY LIGHT-COLOURED ENGLISH HONEY, in 7, 14, and 28 lb. tins; sample, 3d., post free.—C. DUNN-GARDNER, Fordham Abbey, near Soham, Cambs. y 9

DON'T FAIL to have one of my Hives before Swarms come; all Hives sent out are fitted with Frames and Sections with Starters, and painted. Cottagers, 8s. 6d.; "W. B. C.," 15s.—RANSOME, Hellingly, Sussex. x 93

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order.—EDWARD REYNOLDS, manufacturer, Andover, Hants.

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held on Thursday, the 16th inst., at the board-room of the R.S.P.C.A., 105, Jermyn Street, S.W., Mr. T. I. Weston occupying the chair. There were also present Miss K. M. Hall, Dr. Elliot, Messrs. T. Bevan, W. Broughton Carr, J. B. Lamb, and the secretary.

Letters regretting inability to be present were read from Mr. T. W. Cowan, Miss Gayton, Mr. W. H. Harris, Mr. H. Jonas, Mr. R. T. Andrews, Mr. W. F. Reid, and Mr. E. D. Till.

The minutes of the previous meeting were read and confirmed.

Six new members were elected, as under:—Mr. Philip Baker, Shelbourne Wake Green, Moseley, Birmingham; Miss Ida Brown, Moredun, Paisley; Mr. Geo. Hepburn, The Haven, Sutton, Surrey; Miss Gwendoline Price, Marrington Hall, Chirbury, Salop; Mrs. H. J. Robinson, Sharnden, Mayfield, Sussex; Mr. Edwin Wooderson, Dartmouth Road, Brondesbury, N.W.

The Finance Committee's report was presented by Mr. Weston, and formally adopted.

Correspondence relating to examinations and other matters having been dealt with, the remaining portion of the sitting was devoted to hearing "impromptu lectures" by eleven candidates for first-class expert certificates.

The next meeting of the Council will be held on Thursday, June 20.

REVIEWS OF FOREIGN BEE-JOURNALS.

By "Nemo."

Bee-keeping in the Argentine Republic.—We find in *L'Abeille de l'Aisne* that M. Lucien Iches, writing from Buenos Ayres, states that in the virgin forests in the district of Chaco there are a number of small wild bees that collect honey. These are of the genera *Melipona* and *Trigona*. The first do not sting, but the others do, and cause much pain. The native Indians are too nomadic and too lazy to domesticate these bees. They argue that it is not worth troubling about cultivating them when they can take from the trees the honey these bees store, and this is what they do. Honey is to be had and can be collected at any season in Chaco. On Sundays, while the women and children bathe in the river, the men go into the forest to collect the honey. If the bee is of the stinging species, which they easily recognise by the disposition of the nest, they set alight some green wood, which makes much smoke, and thus stupefy the bees. Then one of the men climbs the tree and takes the honey. If the bees are seen to be the stingless variety, of course they do not trouble to smoke them. Indians are very fond of honey, and eat it greedily. One day M. Iches, riding through the forest, came across a native who had some dirty honey, mixed with pollen and dead bees, &c., lying in the bottom of an old zinc box which he had picked up somewhere. M. Iches offered (from mere curiosity) to purchase the box and its contents, offering ten times its value, but the liberal offer was declined, and the Indian retired giggling, and smearing his hands with the honey, he licked them with evident delight. During the whole of M. Iches' stay in Chaco he was unable to get any of this wild honey, or even any other honey; for the Indians, as well as the colonists, eat the honey contained in the cells of a species of very vicious wasp, *Polybia ruficeps*, possessing a formidable sting. This wasp makes aerial nests of a material resembling cardboard; which nests are sometimes very large. He saw one near Buenos Ayres over one mètre high and still more in width. No one dared to approach this nest, even with a view to destroying it, so full was it of stinging legions.

Robbing by Bees.—We find it stated in *Praktische Wegweiser* that secret robbing of a special character is often developed during the flowering of rape grown for seed. When favourable weather has produced an abundant honey-flow in the blossom of this plant, the odour of the freshly-gathered nectar comes out in a stream from the hive, and naturally attracts strangers to each stock, and as rape flowers have communicated the same odour to all colonies in the apiary, a general robbing all round is started among the bees of different hives. Strangers enter every colony, load themselves with honey found therein, and transport it to their own homes, and very soon the bees of the whole apiary busy themselves with this transportation. The bees of each robbed colony, realising that something unusual is taking place, become excited by the coming and going of the robbers, and ultimately join them. Thus, in the end, the hives of those that commenced the game are in their turn pillaged, and the bees of the two colonies are seen robbing each other without fighting. The result of the day's work is no addition to the stores of either if the colonies are of equal strength. If, however, one colony happens to be stronger than the other the weaker goes to the wall, its stores disappear, and the stock becomes worth-

less for the rest of the season. It is towards evening that this sort of robbing is most easily noticed, when the bees of some colonies, having done work for the day, are seen flying excitedly about their hive. Then it is that one may be certain that robbing is taking place. This sort of robbing is difficult to stop, and it is advised immediately to alter the odour of the hives by putting into them camphor or naphthaline, so that the bees of the robbed colony can recognise the strangers.

Building Spare Combs.—M. A. Crousse, in *Rucher Belge*, quotes M. Bertrand as saying that "the supply of built-out combs is never too great in a well-kept apiary." In districts where there is a late harvest of honey, this—generally of inferior quality—can be utilised by compelling the bees to build combs. If there is no second harvest it can be replaced by feeding the bees with thick syrup in large doses. The temperature at the time is favourable for the production of wax, and thus, at comparatively small cost, combs are obtained which will be invaluable in the coming spring. To make the bees build new combs, those already on hand, from which the honey has been extracted, are removed and replaced with frames of comb-foundation. As soon as the cells are drawn out, these are removed and stored away for future use.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[6714.] Still another change, and an adverse one for bee-keepers, in our district, the warmth and sunshine of ten days ago giving place to keen N.E. winds, dull, sunless days, and frosty nights, with brief intermittent periods of sunshine.

The few early swarms already hived will require feeding to keep them alive, and as bee-forage is not very abundant they should have continuous attention till fine weather returns. The growth of colonies must on no account be retarded for want of timely help under present conditions. A little thin syrup put in a shallow tin or platter, with some short straws sprinkled on the syrup to prevent drowning, will keep the brood-nest expanding; but open-air feeding must only be adopted where hives are not supered. Supers and section-racks, if not prepared before now, should be fitted and got ready for putting on directly the honey season opens. A good number of hives can be supered in a very short time when everything is prepared beforehand. Use a carbolised cloth, made from a square of coarse calico—or strainer-cloth—spread this out, and let fall on it a dozen or so drops of Calvert's No. 5 carbolic acid at equal distances apart. Roll the cloth up tight, and keep it in a tin till wanted for use. When putting on a rack of sections, gently remove the quilt from the top of frames, and allow the carbolised cloth to take its place for a moment or two; then, with the rack of sections ready to hand, remove the cloth, and while the frames are clear of bees, having gone down between the combs, quickly place on the rack, and wrap it well up with soft, warm material. The whole job will only take three or four minutes, and not a bee be crushed or injured. All manipulations with hives should be from the rear, and if the hive-roof is hinged, and turns up from the back, it forms a screen from the bees working in and out of the hive.

Be prepared for swarms! Have the hives intended for them set upon their stands quite level, the frames fitted with full sheets of foundation if possible (or as nearly so as can be adopted on account of cost). The frames should be wired if a large swarm is put on them, or a simple and effective alternative method will be to use the device advertised in the prepaid columns of the B.B.J. every week. I have used the same device when giving full sheets of foundation to established stocks. I would earnestly impress upon novices the importance of always giving full sheets of foundation when enlarging the brood-nests of old stocks. If starters only are used the bees will generally build drone-comb.

Always feed swarms received from a long distance immediately on arrival; it puts the bees in a good humour, and allows of manipulating without stings, if the hiving is properly done. Bee-keepers should remember that swarms may lay at a station two or three hundred miles away in Scotland from Saturday night till Monday morning; if despatched from the South of England on a Friday, they may be practically starving before they reach their destination. Hence the urgent need for feeding at once when received.—W. Woodley, Beedon, Newbury.

ROSS-SHIRE NOTES.

[6715.] While Southern bees are storing new honey, a continuance of cold weather keeps things quiet here. Fortunately, a couple of sunny days last week permitted an examination of hive interiors. Two stocks were found worthless, through, in one case, the presence of a worn-out queen, and in the other the absence of a mother-bee. Their loss was quickly forgotten in contemplation of the excellent show made by the others; all were good, and a number almost incredibly strong. Stocks wintered on twenty frames showed bees crowded at all four corners, with brood on frames next dummy-board. In one flourishing hive I found drone-brood, and even drones; this on May 13—an exceptionally early date up here. This speaks well for double-storied hives and non-feeding, "let alone" methods. Simply put on a stored full-depth super in September, and replace in June by section-racks.

These powerful colonies must be started off with two racks, and succeeding ones can be placed on top, the first given being left untouched until finished. I find that section-honey is completed better and quicker when worked close on to the brood-nest, while preliminary comb-building is best carried on in the upper racks. Continuity of work is ensured by supplying each rack given with a row of partially drawn combs and adhering bees from its predecessor. This method of supering will be found to save much time and trouble to bees and bee-men alike. Give it a trial. Reciprocity!

It is noticeable that the trade in bees between the English and Scottish divisions of the United Kingdom is rather one-sided in character. Northern bee-men import queens and swarms from England, but we seldom hear of Scottish bees being sold "down South." Very likely it pays better to keep them at home in the neighbourhood of the heather hills. Something might be done, however, in the way of exchanging queens. I for one would be glad to hear from Southerners willing to try some of our July-reared hardy Highland queens in return for good English fertiles delivered now.—J. M. Ellis, Ussie Valley, Cononbridge, May 18.

BEES IN SUFFOLK.

EARLY SWARMS AND EARLY SECTIONS.

[6716.] Having just completed my spring tour in the above county on behalf of the Essex and Suffolk B.K.A., I send you the following notes, thinking they will be of great interest to readers of the B.B.J. In early April I spent a few days with friends in Suffolk, during which time I helped to pack off a waggon-load and a large cartful of bees and appliances. These stocks, with few exceptions, were very strong; they had wintered well with nothing above the top-bars but a frame of glass for covering. I noticed that the hives were practically free from wax-moth, which the owner attributed to the glass frame and the clear passage-way it gave over the combs. I found stocks in all parts of the county through which I travelled (covering about a thousand miles on my bicycle) in very strong condition. In the middle of April ten out of eleven stocks belonging to Mrs. Cranfield were ready for supers; the bees were quite up to "boiling-over" point. The Rev. Lloyd Jones also had some very strong stocks, headed by golden queens. Mr. C. Dunn-Gardner was the first to report swarms to me; these issued on May 9 and 10. In this very large apiary stocks were said to be more forward than for some years past. The bees were mostly hybrids, and in one case filled two racks of shallow-frames. On May 6 I saw a hive at the apiary of Lady Malcolm with a rack of sections about ready to cap over. Previous to that I inspected a dozen stocks belonging to Sir J. Gorell Barnes, many being at the point of preparing to swarm, because time had not been given to put supers on. I could mention numbers of apiaries where bees were found to be remarkably strong for the date, which I attribute to the bees being so well stored in the autumn, to the early genial weather, and to the large quantities of fruit blossom everywhere about. Certainly there were some weak and diseased stocks—as one would no doubt find in all counties—but the general outlook was most promising in the districts between Cambridge and Felixstowe, and Beccles and Clare; these I mention as practically the limits of my Suffolk districts.

On completing my spring tour in Suffolk, I found there had been swarms at Chingford early in May, and on May 18 I assisted Mr. J. R. Pulham, Hoddesdon, to take off some sections of good-quality new honey. The hive from which the sections were taken was supered with two racks, and both were well filled with bees. —A. W. Salmon, Expert Essex and Suffolk B.K.A., Chingford, May 20.

BEES BALLING QUEENS.

[6717.] I am utterly at a loss to account for the bees balling queens, as they do in a large number of cases in my apiary when the hives are opened before May. I have caught them in the act in two cases in 1906, besides losing queens in other cases unaccountably after a spring overhaul. In view of these mishaps I decided

not to examine my hives early this year, and beyond a peep under the quilts have not done so, but in one case I took out a superfluous comb with no bees on it, and slipped in a dummy without touching any bees at all. Yet shortly afterwards the queen was rolled out dead. She was not pure English, though nearly so. There were only slight traces to show her origin.

Seeing that many of my stocks, purchased from various sources, have foreign blood, I am induced to ask, is the tendency to "ball" queens due to nervousness? Anyway, it is a highly inconvenient peculiarity, and a means of preventing its manifestation is very desirable. I am most careful in my methods and thoroughly experienced, yet the same thing occurs year after year. Other beekeepers are, to my knowledge, more fortunate in this respect. It is of no use to try to explain it by suggesting "careless handling" or directly injuring the queens; in my case it is "balling" pure and simple, on the slightest disturbance. If the foreign element in the blood be the primary cause of the trouble, it is time we gave up importing alien races. I would much appreciate the comments of anyone capable of throwing light on the matter. I lost 25 per cent. in one spring from this cause alone. The queens were in no case over two years old.

Although at one time a believer in crossing races of bees, I am now very doubtful of its virtue. The first cross is apparently more vigorous, but often of a terrible temper; the after crosses also appear to be very excitable. For myself, I have never found a better all-round race than the ordinary British bee. Unfortunately the native, uncrossed, becomes more and more difficult to obtain, and in time to come may be selling at more than the fancy prices now asked for coloured bees.

Bee-keeping may have gained some advantage in modern times by blending with the foreign element. There has also been much loss, and it is now practically impossible to find a pure British bee in Britain. Let us breed British queens as carefully as we do the others, and the results will, I think, show the advantage of the native. Pure races are less irritable than hybrids. Italian bees when pure are very docile, but it is impossible to keep a pure strain where there are other apiaries near. Referring to the question of young queens getting through excluder zinc: Many of your correspondents seem to be unaware of the fact that a queen, newly hatched, is much larger than she is two or three days later; in fact, judging from appearances I should say that a queen just hatched is as large as she will be when mated and laying. I have noted this when breeding queens in miniature hives. They most certainly shrink in size very considerably, and do not have a matronly appearance until mated and laying. So much so that one might easily conclude that a fresh queen was in the hive. What we need are good British queens, bred from full-sized natural cells, not scrubs. It is better for a dealer to limit his output to the very best than to sell a great number of scrub queens. By doing this he will in time become known, and will be able to command a fair price. Not being a queen breeder for the market, I am entirely disinterested. I know that good British queens will result from good big swarming cells, and that these are too scarce for a dealer to supply a large number. All the cells produced at swarming time are not first-class, probably not fifty per cent. in some cases.—W. J. Farmer, Redruth.

ODDS AND ENDS ABOUT BEES, ETC.

Range of the Drone's Flight.

[6718.] An American writer's observations on queen mating, as observed by himself over his apiary, were given in the B.B.J. some few months ago. The massing of the drones, their evolutions, and mad rushes in pursuit of virgin queens were graphically described and were instructive as to what actually takes place; and besides gave a certain amount of evidence that the drones did not go far from the hives. Mr. Cowan also, on page 46 of his work on "The Honey Bee," gives some evidence that the bee may travel at the rate of one mile in less than five minutes. That it could maintain this rate of speed for any length of time is, however, doubtful. In the case of the working bee, only its return flight is possibly continuous. I have followed bees from flower to flower until they might be a mile from home, and have repeatedly drawn the attention of others to the home-coming of my bees. As they cross the valley they become visible to my naked eye on a calm afternoon about 200 yards away. The time taken to cover that distance could easily have been ascertained if I had thought the knowledge of any use. But the outgoing flight of the worker is to my mind appreciably faster than the incoming for obvious reasons. I have noticed that various correspondents assert that the queen bee and drone are exceedingly rapid in flight, but they adduce no grounds for this except that the queen, after circling round the hive almost immediately disappears from the ken of the observer.

One reason for this is that the direction of the flight cannot be forecast, and the circling motion is bewildering amid the thousands of workers coming and going; it may be that the visual powers

of the watcher are not capable of seeing an object the size of a bee at any great distance. My own sight happens to be singularly powerful, and in favourable circumstances, with the afternoon sun glancing from the wings of bees, I have repeatedly made observations as stated above; but, if I may take Mr. Cowan's rate as approximate up to one mile, and grant that the queen goes faster—say, fifteen miles or even twenty miles per hour—a rate which gives us one mile in four minutes or in three minutes—then the following observations during last year's mating season may be of some use. I am, however, quoting from memory, but being anxious to know how far queens might fly, I repeatedly kept watch in hand during the marital flight. The initial flights rarely exceeded *two* minutes, sometimes not one. Two years ago I waited patiently for twenty minutes, and this is the longest time that I can confidently assert for. This for the faster rates would mean five miles or six and two-third miles continuous flight at the uniform rate of fifteen miles or twenty miles per hour. Assuming then that the queen's flight was in a straight line and uniform in rate she might have gone 2½ miles or 3 1-6 in one direction. This would be quite sufficient in a country populous in bees in every "airt," but there are only two directions here where strange drones might be met with, and the chances of the queens going in either are as 1 to, say, 180 chances.

Should the queen continue the spiral flight she starts with she could not have gone far in that time. Indeed, I could give an approximate drawing of a spiral that I particularly took note of.

Now a circle at a radius of 280 yards from the hive would give a circumference of one mile, while a radius of 560 yards would give 2 miles. I think, taking a spiral that might extend from a quarter of a mile to 560 yards from the centre would amply account for any time the queens were absent, and would give them sufficient time to meet a hapless mate in some direction. But pray, how is it that while a young queen may be leaving the hive, drones may be entering, oblivious of her existence?

I will let Mr. Weston have my observations carefully taken and timed this season.—D. V., Dunaskin, May 7.

HAMPSHIRE NOTES.

[6719.] I send a few notes from our county which may be of some interest for Bee Journal readers. A thorough good start was made here in April, glorious weather being the predominant feature, the bees revelling in delight and work. Their ability has been shown to set all colonies on a good footing; therefore, given proper weather, all will go on well. Vast quantities of pollen have been carried in, showing the rate at which breeding is progressing. A cursory glance at some of my hives early in April showed brood in grand patches on four or five frames, while in one colony there was brood in eight frames out of nine, among it being some sealed drone-brood. All my stocks have come through the winter well, with food still holding out. One of the chief things which cause loss of bee-life with me in spring is the veritable traps the flight-boards present in the early morning, wet with dew, when bees sallying forth often turn somersault on the board and so get stuck to it by their wings and die on their backs before the sun dries up the boards.—W. Fay, Wade Court Apiary, Havant.

EARLY DRONES IN THE NORTH.

[6720.] On March 28 I saw a drone issue from one of my hives, and after flying round about it went back in again. Is it not very early for drones to be on the wing in this part of the country? We have had a very cold winter here, but at the end of March we had a very warm spell, and it is now very cold again. On Oct. 10 last year I gave the hive in question an Italian queen, bought from Mr. Sladen. I see she has been breeding well, as a number of yellow bees are now on the wing. Before introducing the Italian I removed the other queen, and as there were some drones in the hive I killed every one of them. I thought it strange to see them alive so very late in the season. The stock seem to be very strong just now, and the bees are very busy pollen-gathering; but I have never noticed any more drones but the one I have mentioned. Do you think it is a good sign to see them carrying in pollen? Reply will much oblige—R. Ross, Biggar, N.B.

[It is an invariably good sign to see bees carrying pollen. If only an occasional bee only comes home pollen-laden it may mean very little; but "very busy" at the work means a prospering colony.—Eds.]

PRICE OF HONEY.

[6721.] As the subject "Will bee-keeping cease to pay?" has been much to the fore lately in our journal, it will, I feel sure, be of interest to those who live in the country, and do not have an opportunity of noting the prices asked in London for honey, to know what retailers here are doing. At one of the large and well-known stores I noticed this morning splendid section-honey put up in double-glazed wood section-cases (costing 16s. per gross) at 9½d. per section. I also noted that while French (Narbonne) extracted

honey was quoted at 11d. per lb. English was priced at 10d. Both were put up in screw-cap glass jars. Taking the average all round, I should say that 10d. seemed to be about the price asked in London. Two years ago a large grocer in the S.E. district of London was retailing tall sections at 8½d. each. Surely this is low enough in all conscience.—B. E. B., Ealing, W.

[Our own experience scarcely agrees with that of our correspondent with regard to "splendid" sections in double-glazed wood cases, &c., but we have noted that 1-lb. sections (some good, others only third grade) were on offer daily from June to December last year at 9½d. each. They were, however, neither cased nor glazed, but just as taken from the hives, and if bought by the gross wholesale at 7s. 6d. per doz. would yield a fair profit to the Civil Service Stores in London, where we saw them all along. In the suburbs prices for sections appear to run from 10½d. to 1s. The same for 1-lb. screw-cap jars.—Eds.]

APRIL RAINFALL.

Total fall, 2.90 in.

Heaviest fall in 24 hours, 1.36 in. on 12th.

Rain fell on 19 days.

W. Head, Brilley, Herefordshire.

Queries and Replies.

[3511.] *Clipping Queen's Wings.*—I enclose a dead queen-bee, picked up near one of my hives. At first I thought she was quite dead, but after being held in my hand she began to revive, though unable to walk, and she gradually became comatose again. I should be glad to know what has caused her to be cast out of the hive, which was in a fairly good condition? To help you in your opinion I will tell you the history of this particular queen. I bought a swarm last summer, and had the greatest difficulty in persuading the bees to accept their new hive. Again and again did the bees leave. At last I caught the queen and clipped her wings, thinking that this would end the trouble; but no, she still seemed restless, and refused to settle in her new home. Then it occurred to me that the swarm was really in want of food, so I sprinkled hive and bees plentifully with syrup, which proved successful, the bees never again attempting to leave. The other week I made an examination of the hives, and found the stock referred to above in a very weak condition, not many bees, and only a little brood uncapped. The bees were supposed to have been fed with candy, but through some mismanagement the lappet of feed-hole in quilt had slipped back, and so prevented a single bee getting to the food. My next move was to strengthen this stock, so I exchanged the position of two stocks, putting a strong one in the place of the weak one. Thus the latter soon got a number of bees belonging to the strong stock, and to my delight I found the bees stronger and more lively. The queen, with her additional supply of bees, began to lay, and she has within two or three weeks quite filled with brood several frames, which brood is now nearly ready to hatch out. This being so, I want to know why the queen has been rejected. Is it because of the clipped wings, or what? Thanking you in anticipation of reply, I enclose name for reference. Since writing the above I find the queen still alive, and can stand on her legs. I will enclose her in this letter the last thing before posting.—W. H., Horsham.

Reply.—It seems clear that for some reason the queen attempted to make a flight (not an uncommon occurrence in spring), and, owing to her clipped wings, fell to the ground in the attempt. Being unable to return to the hive, she soon became chilled, and so injured thereby as to be past recovery. With regard to the effort to strengthen a weak stock in spring at the expense of a strong one, it was an unwise move, and could hardly fail to do more harm than good in the long run under the circumstances.

[3512.] *Removing Bees from Barn.—Transferring Bees.*—A strong colony of bees have built their combs between the double walls of a barn near here, and I have been asked to remove them. I therefore ask 1. if you would kindly let me know through your columns whether it would be possible to transfer them to a hive? The barn is about one and a half miles from here. I propose to try to take them by taking away the inner boards, and cutting out the combs one by one, and tying them into standard frames; then to fix them up in a temporary hive as near as possible, and leave them for a couple of days, to let the bees settle down. I would then shut up the entrance of the hive when all the bees are in at night, and carry the hive to my apiary. I quite anticipate a deal of difficulty in carrying this out, but cannot think of a better plan. I know of several other colonies which have built their combs in outhouses and buildings, which, if I am successful in taking these, I should try to take. 2. I have also several stocks in skeps which I wish to transfer to frame-hives. Some of them I intend to transfer by placing the skep over a frame-hive with standard frames, and letting the bees work down, as I have seen recommended in the B.B.J. But I intend to let the others send out natural swarms, and what I wish to know is, what is to be done with the bees left in the skep after swarming? I have read somewhere about waiting till the end of the season, and then driving the bees from skeps, cutting out combs, and tying them into frames with tapes. Wouldn't it be better to drive the bees immediately after the swarm has issued, so that they can establish themselves in the new hive before the cold weather sets in? On the latter plan the bees would possibly be able to get a little surplus honey before the season closed. I work my bees entirely for sections, not having any demand for extracted honey.—R. T. C., Wantage.

Reply.—1. Presupposing that you are able properly to carry out the proposed plan of removing the bees and combs, it would answer very well. The temporary hive should, if possible, be fixed up inside the barn, so that the bees will have access to the hive by the original entrance. We should also advise tying only such of the old combs as contain brood or food into about three frames of the temporary hive, filling up with frames fitted with full sheets of foundation (wired). Great care must be taken to tie the old combs securely in the frames, in order to avoid a breakdown while getting the bees home. 2. If it is intended to do away with the parent skep entirely after swarming, defer driving bees from the latter for twenty-one days, so that all brood in the skep-combs may have hatched out before operating Meanwhile, a second swarm will doubtless have issued nine days

after the first, and this swarm (or cast) should be hived on full sheets of wired foundation, and placed close to the old stand. This is done so that when the young queen in frame-hive is mated and laying, the bees in parent skep may be driven, and, after removal of their queen, added to the last-formed stock, which takes the place of skep on the original stand. Dust both lots well with flour when uniting.

[3513.] *Bee-Management for Beginners.*—In asking for your kindly help in managing my bees may I first say that I am only a beginner, having started last year with one frame-hive? I now have three, each of which is made to hold twelve standard frames, and at the present time one has eleven frames in the brood-chamber, the other two having ten frames each. Quite recently I looked at all the hives, and found the frames in each well covered with bees. I thought, therefore, of putting on supers; but a friend tells me I must remove the dummy and fill up each of the brood-chambers to the full number of twelve frames before doing so. I cannot myself see the need for this, as it would tend to delay the bees in entering the supers, as I wish them to do at once now that the honey-gathering season has begun; nor do I see why ten or eleven frames should not be enough for brood-chambers at all seasons of the year. 1. My first question therefore is: Shall I put on the surplus-chambers at once, or give the extra frames first? 2. The combs in two of the frames which I removed when packing the bees for winter were somewhat black and broken; would it not be well to cut out these combs and replace them with sheets of foundation before using again? 3. I did not contract the hives last autumn because all the combs were so thickly covered with bees that I thought it best not to crowd them any more, so left them alone. My friend said I would soon find the outer frames deserted and the bees clustered in centre frames only; but I did not find this correct, as the bees covered all the combs. Did I do right? 4. When is the best time of the day in which to handle bees with least disturbance—morning, noon, or evening?

I have read the "Guide Book," and taken the B.B.J. ever since I began last year, and I cannot help thinking what a help it would be to beginners like myself if the "week's work" could be given in each issue of the JOURNAL. Of course, I know that all the information wanted is contained in the "Guide Book," but one cannot tell just the time when each operation should be performed with advantage, and thus time may be lost; or, on the other hand, we may be in too great a hurry to secure the best results. As days go by the weather varies so that a beginner is at a loss what to do for the best. I fear my letter is too long, but I do everything about the bees myself, and am so much interested in the work that this must be my excuse.—(MRS.) E. G., Braintree, Essex.

REPLY.—1. If the ten or eleven frames (as the case may be) in brood-chambers are fully covered with bees, surplus chambers should be given at once. There is no real need for more than that number of frames, except under special circumstances, which do not exist in your case. 2. It will be far the best policy to cut out the faulty combs and replace with full sheets of foundation. 3. You did quite right under the conditions stated. 4. As a rule, the best time to "handle" bees cannot well be given, as so much depends on what is meant by "handling." If it means giving supers, it is well for beginners to operate when most of the bees are absent in the fields. On the other hand, if removal of surplus honey is the work to be done, the temper of bees at the time must be considered, and this is sometimes as variable as the weather. The only advice we can give is, when bees are disposed to strongly resent being robbed of their stores (as they occasionally do), don't persist in removal of supers that day. In course of a day or so the work may be got through quite easily, with much trouble and time saved by waiting. With regard to the whole question of handling bees the year round, the "Guide Book" supplies all the information required if carefully studied. Your final remarks on the subject of giving directions for each week's bee-work are obviously impossible of fulfilment. It must not be forgotten that the thousands of bee-keepers who read the B.B.J. are located in districts so widely apart that the week's "work" in one place would be absolutely unsuitable for another. Not only so, but so variable is our uncertain climate that we might, under the influence of a day or two of bright sunshine and warmth, give directions for work applicable to busy bee-days with every stock hard at work, and before our advice appeared in print not a bee could take wing, owing to the bitterly cold weather. It is, therefore, certain that readers must use their own intelligence, after reading the "Guide Book." By so doing they need not go very far wrong.

[3514.] *Dealing with Foul Brood.*—I should be thankful for your advice under the following circumstances:—Last autumn I found that my bees (eighteen stocks) were badly affected with foul brood. Not being an expert at bee-work, I did not discover it until the stocks were in a bad way, but I tried to follow the directions given in the "Guide Book" for dealing with this disease. I first shook the bees off the frames, allowed them to run into an empty skep, and kept them without food, according to instructions. I returned the bees after I had scrubbed the hives with hot water and soap, and disinfected them with carbolic acid; I put new frames fitted with foundation in the hive, and fed the bees with medicated syrup, made according to "Guide Book" recipe. (I got the naphthol beta from a chemist.) The bees wintered safely, but I find on looking them over this spring the disease is still present in every hive. Feeling rather disheartened, I ask your opinion (1) as to whether it is worth while endeavouring to cure them? Also would it be safe to use the hives and frames again if I boiled them in a large tank? 2. How long should they be boiled to kill the disease germs? or would it be better to burn the lot, and forget bee-keeping altogether? I should much regret having to part with my bees, as I find them most interesting. I have worked in the evenings during this last winter making hives, &c., but as I am only a farm labourer, I cannot keep my bees altogether as a hobby; I look to them to help me in keeping my wife and family. If you can advise me in my difficulty, I shall be very grateful, and will carry out what you suggest.—W. H., Sittingbourne.

REPLY.—We have delayed replying to above hoping to hear of some experienced bee-keeper who might be willing to help you in the difficult task of dealing with eighteen colonies of bees affected with foul brood at this season, but so far have not succeeded. As is only natural, bee-keepers are busy among their own hives just now, when the bees are getting into full swing for the season's work; nor is anyone inclined to be working among diseased hives, because of the risks involved. We can, therefore, do no more than advise another trial of the means of cure given in the "Guide Book," seeing that in skilful hands they can be made effective. The bees, if badly diseased, should be destroyed, unless they are fairly strong in numbers. If they are so numerous that two lots joined together would make up 4 lb. of bees, you might join them up to form six or more stocks, and proceed as before; but the greatest care must be taken in carrying out the directions given. It is a good

time to make a trial of curing, as honey is now to be had outside, and robbing will be avoided.

[3514.] *Killing Off Queens for Re-queening Hives.*—I should be glad if you would answer the following question in the B.B.J. :—When is the best time to kill the old queen now in a hive, so that the stock will re-queen themselves, and give a fair surplus? I may say the stock is very strong, and the frames are full of brood now, and all filled very regularly.—M. A. F., Colwall, May 14.

Reply.—If the present condition of the colony is exceedingly prosperous, as it apparently is, we should hesitate about killing the queen at all this year. You should make sure that the queen is failing before destroying her, but when the need for this really arises it should be done as soon as the main honey-flow begins to fail, or before drones are killed off, so that the new queen raised may be safely mated and laying before the season closes.

[3515.] *Feeding Bees with Old Honey.*—I have a skep almost full of old candied honey. I wish to use it for the bees, and so ask : 1. What is the best method of preparing it for feeding? 2. Should I give it to the bees just now, or keep it for autumn "stimulating"? 3. Should I begin spreading the brood in my hives now? 4. As the bees are beginning to draw out new comb at the tops of the frames, would you advise me to put on a rack of sections? I send name, &c., but please reply to—Novice, Ardgay, May 17.

Reply.—1. The only way we can suggest is to slice the combs up, and after placing them in an earthenware vessel put the latter in the kitchen-oven, hot enough to melt the combs and re-liquefy the honey. When cold, the wax may be lifted off in a cake, and the honey be fit for bee-food. 2. Bees should not require feeding at this date, unless stores have run out; but you will know how to judge of this. 3. We advise you not to spread brood at all, unless you have had experience in that direction Much harm is done by beginners trying this operation, useful enough in the hands of skilled bee-keepers, but very risky one for amateurs. 4. Yes, give the sections at once if the bees are strong enough in numbers to justify giving more room.

[3516.] *Supering Hives in May.*—I have a stock of British bees in what I believe is called a "Combination" hive, on ten frames. I am told that I must super this hive first above brood-nest with shallow frames, and after I may put on sections. As I prefer to get sections rather than extracted honey, can I not put a rack of sections, followed by another, direct on brood-nest? Or is there any advantage in doing the way I have been told?—Emily, Staffordshire, May 14.

Reply.—There is no reason why you should not give a rack of sections next to the brood-nest, if it is not desired to work for extracted honey at all. We know of bee-keepers who adopt the plan your informant mentions, but they have a reason for so doing. For instance, it is sometimes done in order to extend the brood-nest, and so provide egg-room for specially prolific queens. At other times a rack of shallow frames is first given because the early honey in some districts is of poor quality, and is, in consequence, left for the bees' own consumption. In your case we advise putting a queen-excluder on between brood-nest and sections in the ordinary way.

Bee Shows to Come.

May 28 to 31, at Maidenhead (Berkshire B.K.A.).—Show of Honey in connection with the Annual Exhibition of the Royal Counties Agricultural Society. Over £20 in prizes. Schedules from D. W. Bishop-Ackerman, Hon. Sec. Berks. B.K.A., 161, King's-road, Reading. **Entries closed.**

June 25 to 29, at Lincoln (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Special classes for the Lincs. B.K.A. only. Schedules from E. H. Young, Sec. B.B.K.A., 12, Hanover Square, London. **Entries close May 28.** Schedules and particulars for Lincs. B.K.A. classes from R. Godson, Hon. Sec. Lincs. B K.A., Tothill, Alford.

July 17 and 18, at Burton-on-Trent.—Honey Show of the Staffordshire B.K.A. Special prizes, including five Open Classes. Prizes, 20s., 10s., and 5s. Single 1 lb. Jar and Section (entry free). Schedules from Joseph Tinsley, Expert, Chebsey, near Stafford. **Entries close June 22.**

August 8 to 10, at Barnsley.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. Schedules and form of entry from John Maughan, Secretary, Blake-street, York. **Entries close June 29.**

August 21, at Lancaster.—Show of Honey, &c., in connection with the Lancaster Agricultural Society's Annual Show. Open Classes for Extracted and Comb Honey, also Beeswax and Produce. Challenge Cup value £5 5s., also six silver and bronze Medals, and other Specials. Schedules from Thos. Armitstead and Son, Auctioneers, Lancaster. **Entries close August 7.**

August 21, at Radstock.—Annual Show of the Somersetshire B.K.A., in connection with the Radstock Horticultural Association. Seven open and two free classes; good prizes. Schedules from Herbert J. Moore (Show Secretary), Foxcote, Radstock. **Entries close August 14.**

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

W. E. E. C. (Tattingstone).—*Beet versus Cane Sugar.* — Our experience certainly does not agree with yours. It is quite true that "beet-sugar" is chemically identical with cane-sugar, and in a laboratory can be produced pure; but it is most difficult to purify beet-sugar in such a manner as to get rid of all the potash salts. It is the presence of these that makes beet-sugar so liable to fermentation, and causes the general complaint among housekeepers that preserves do not keep so well as they used to before the introduction of sugar made from beetroot. Cane-sugar is free from these salts, hence its freedom from fermentation. Much of the beet-sugar is also artificially coloured with aniline dyes. Referring to the complaint that cane-sugar is higher in price than beet, the difference is more than compensated for by its greater sweetening power. Chemists find that cane-sugar gives a clearer and sweeter syrup than that made from beetroot, the clearness being due to its greater purity. Beet-sugar also varies very much, and if it were chemically pure sugar it might be admissible; but in commerce it is not so, and we do not consider it fit for bee-food. There are many things *chemically identical* that we should not consider fit substitutes. For instance, sawdust is chemically the same, both qualitatively and quantitatively, as corn-flour, but one would hardly care to have bread, however cheap, made from sawdust. Nor would we like our butcher to send us a piece of leather instead of a beef-steak, although the composition is chemically almost identical. Cane-sugar comes next to honey as a bee-food, and even were it considerably dearer than it now is, we should

consider it more economical in every way for bee-keepers to use it in preference to beet-sugar. We have had practical experience that bad wintering was frequently due to feeding bees with beet-sugar, and therefore cannot recommend it.

J. C. (Belfast).—*Honey Showing.*—Of the two samples sent the light one is good in colour, and fairly good on most points, but not of high quality for the show-bench in the light-coloured class. The darker sample would stand a far better chance of winning a prize if staged in a class for medium-coloured honey. It is very good in colour, consistency, and flavour, having just enough of heather mixture to make it a capital honey for table use. The "points" which the judge referred to are curious, to say the least, and would not be accepted as accurate on this side of the Channel. Flavour is by far the most important of the three, and to give equal marks (10 each) for *flavour*, *consistency*, and *colour*, without taking note of any other points at all, is, to our mind, not competent judging. We cannot go into the question whether or not a shopkeeper who is not a bee-keeper is a proper person to judge at a honey show. That is altogether a personal matter.

F. A. B. (Snaith, Yorks.).—*Drone-breeding Queens.*—The dead queen sent cannot be the one "which produced a strong colony last year," as stated. It is a virgin; consequently it is certain that some mishap befell the mother-bee of 1906 in the autumn of that year, too late for the successor reared to become mated.

Baymon (Rushden).—*A Beginner's Queries.*—1. Honey sent is of good quality, quite equal to that advertised in our pages at 56s. per cwt. 2. If excluder is used between.

E. Forster (Plumstead).—*Wax-Moth.*—The cocoon sent contains a chrysalis of the true wax-moth. Its size (1 in.) shows that plainly.

Bee Nomenclature.

E. C. S. (Leeds).—The specimens sent are of a widely-distributed kind of wild bee, named *Halictus rubicundus*. The holes in your garden paths are made by these bees themselves.

Box (Gloucester).—The insects are *Osmia rufa*, a common kind of wild bee.

Emily (Staffordshire).—The insect is a common wild bee, *Andrena albicans*. It makes its nest in a hole in the ground, where it collects pollen, kneading it with honey into little lumps, on which the young feed.—F. W. L. S.

Suspected Combs.

Constant Reader (Devon).—There is no disease in comb; but the queen is obviously a drone-breeder, and the stock is, in consequence, worthless at this season, unless you could introduce a fertile queen at once.

Beginner (West Hartlepool).—The tiny bit of crushed comb received is useless for diagnosing disease. If a couple of inches of comb is sent containing dead larvæ, or with sealed cells, and the remains of such, we will give you our opinion with regard to disease.

Enquirer (Birmingham).—So far as we can judge from bit of comb, the bees are perfectly healthy, but sample is not a good one for judging from.

T. H. S. (Acomb, Yorks.).—We find foul brood in the pronounced brown ropy stage in two cells. It cannot, therefore, be a recent outbreak, as you imagine We suspect the trouble arose when the bees were sent to the heather last year if the hive was located among others at the time. Seeing that the disease is developing rapidly, your only chance now is to get the bees off the combs, and deal with them as directed in the "Guide Book."

F. Rose (Bath).—There is foul brood in comb, but the disease seems to be kept in check, as the young larvæ in comb are chilled only. We found two cells, however, in which foul brood of old standing was apparent. The stock has a good chance of recovering if remedies are used, seeing that natural food will soon be abundant and the stock is strong.

W. S. (Hamilton).—Comb sent is very old, and, being mouldy, is not fit to be in a hive expected to do well. It is also unfit for use in diagnosing disease, there being no fresh larvæ to judge from. The plan you propose should hardly be required if the brood is hatching out all right and bees are strong. It would be better to put it in operation after the stock has given you some surplus honey, and you could judge in August if it was really necessary to get the bees off the present combs at all or not. Do away with such black mouldy combs as are broodless, like sample, by all means, and at once.

Enquirer (Trowse).—Nothing worse than pollen in comb sent. No sign of disease at all.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

STRONG STOCK, in 8 Frames, guaranteed healthy, 18s.; box returnable.—HAYES, County Asylum, Winterton, Ferryhill. z 27

WANTED, GOOD HEALTHY SWARMS, 2s. 6d. per lb., carriage paid.—WM. DIXON, Central-road, Leeds. z 35

SWARMS FOR SALE, 10s. and 12s., supplied in rotation.—BRADSHAW, Allerston, Pickering. z 38

5000 CHAPMAN HONEY PLANTS, to clear, 50 for 7d.—LINDSAY, Middleton, Kirkby Lonsdale. z 24

NATURAL SWARMS, from 11 Frame Hives, 2s. 6d. lb.—THOS. WILCOX, Talywain, Monmouthshire. z 17

5 SPLENDID HEALTHY STOCKS, in strong Redshaw's Hives, three already supered. Prices, f.o.r., £7 10s. the lot, or will sell 30s. each.—WALLINGTON, The Nook, Grappenhall, near Warrington. z 23

STRONG NATURAL SWARMS, 1906 Queen, 12s. 6d., 13s. 6d.; 3 Frame Nuclei, 1907 Queens, 12s. 6d.; Stocks on 10 Standard Frames, wired Combs, from 25s., with fertile Queen, guaranteed healthy.—W. WOODS, Normandy, near Guildford. z 37

STRONG STOCK, IN SKEP (1906 Queen), carefully packed, free on rail, 8s.—THOMAS MOORE, 77, Duke-street, Londonderry. z 36

TILLEY'S PATENT ("WON'T LEAK") SECTIONS, 2 lb. size, 6d., post paid; the "Tilley Damp-proof" Hives, painting unnecessary; also the "Tilley" metal ends, fit any size bars. Particulars post free.—M. H. TILLEY, Bee Farm, Dorchester. z 21

WANTED, NATURAL MAY SWARMS, British Bees, 2s. 6d. lb. given.—NICHOLSON, Langwathby, Cumberland. z 20

STRONG NATURAL SWARMS, 12s. 6d. each; booked in rotation.—J. CRAGGS, Gilling, Richmond, Yorks. z 19

NATURAL SWARMS, from Frame Hives, 100 lb. last season; Young Queens, 12s. 6d. and 15s. each. Orders in rotation.—GALE, Laureston-gardens, Douglas, I.O.M. z 12

Special Prepaid Advertisements.—*Continued.*

FOR SALE, 100 SECTIONS of excellent English Honey.—Apply, GEORGE SAUNDERS, Brome Gardens, Eye, Suffolk. z 34

STRONG NATURAL SWARMS, guaranteed healthy, 12s. 6d., packed; safe delivery.—CADMAN, Codsall Wood, Wolverhampton. z 33

PEDIGREE YOUNG ANGORA RABBITS, parents winners, lovely white.—ROWLANDS, Maes Apiaries, Pwllheli. z 32

FOR SALE, new joiner-made Heather Hive, "Dovetailed," fitted with 10 Standard size Frames, painted three coats, 16s., carriage paid; also new Non-Swarming Chamber, Steele's make, 5s. 6d.—BRIGGS, Paxton, Berwick. z 30

WANTED, SITUATION AS HANDY MAN, attend Bees, assist Gardener; expert.—SHORT, Great Barr, near Birmingham. z 28

HEALTHY NATURAL SWARMS, 10s. 6d., 12s. 6d., 15s., guaranteed safe delivery.—DUTTON, Terling, Essex. z 29

OWING TO REMOVAL, 10 Strong Stocks of Bees, in new "W. B. C." Hives, ready for supering, 25s. each, packed free on rail; also sundries.—BOWDEN, Castle-road, Salisbury. z 16

FOR SALE, OR EXCHANGE FOR A SWARM OF BEES, 3 large Aylesbury Ducks and 1 Pekin Drake.—E. MOORE, Bogthorn, Keighley. z 15

SEVERAL GUARANTEED HEALTHY SKEPS OF BEES, soon Swarm, 12s. 6d. each, must sell.—MULLIS, Egerton, Kent. z 14

SWARMS IN MAY, price 12s. 6d. each.—THOMSON AND SONS, The Nurseries, Wimbledon. z 13

EXCHANGE FOR SWARM, good secondhand "Wells" Hive, healthy and complete.—P. RALPH, grocer, Settle. z 31

NATURAL SWARMS, hived on half-sheets Wired Foundation, everything new, 15s. each; travelling boxes, 4s., returnable in full; Swarms in ordinary boxes, 12s. 6d.; Virgin Queens, 1s. 6d.—TOLLINGTON, Woodbine Apiary, Hathern, Loughboro'. z 26

PLANTS, 1s. 3d. 100, post free. Cauliflower, Veitch's Autumn Giant; Brussels Sprouts, Scrymger's Giant; Broccoli, Veitch's self-protecting, Michaelmas White, White Sprouting; Cottager's Kale; Cabbage, Cocoanut; Lettuce, All the Year Round, Hicks's Hardy White Cos, Bath Cos.—BURGESS, Wenden, Saffron Walden. z 25

PRIME NATURAL SWARMS FOR SALE this season as usual; orders now booked, 12s. 6d. and 15s. each.—PERCY WILKINS, Letcombe Regis, Wantage. z 22

"DOOLITTLE" STRAIN GOLDEN QUEENS, Virgins, 1s. 6d., ready next week; Fertiles, 5s., soon after; book now. All orders executed in rotation. Best testimonial, many satisfied customers have already placed their orders, and do so each year.—D. TAYLOR, Hminster. z 18

BRITISH WEED FOUNDATION, Brood 2s. 6d. lb., Super 2s. 10d.; 5 lb. upwards, 1d. lb. off; postage 4d. 1 lb., 1d. lb. after; Hives, 7s. 6d., 18 by 16, for 10 Standard Frames, double-walled back and front, 9 in. lift, telescope roof, and porch; also Hives, ditto, 18 by 18, with dummy, sliding entrance, 9s. 6d.; Self-adjusting Frames, 1s. 2d. doz., 8s. 100, post. 5d.; "W. B. C." Ends, 3s. gross, post 4d.; everything for Bee-keepers. Catalogue stamp. Cash with order.—COX, Manufacturer, Smallbrook-street, Birmingham. y 28

SWARMS, 2s. 6d. per lb., on rail; packages returnable.—PEPPER, Guide Post, March. z 9

HEALTHY MAY AND JUNE SWARMS, 10s. 6d.—G. TURL, Whitford, Axminster, Devon. y 87

Special Prepaid Advertisements.—*Continued.*

STRONG, HEALTHY TOMATO PLANTS, Holmes' Supreme, Up-to-Date, and Laxton's Open Air, 1s. dozen; Chapman Honey Plants, 1s. dozen; post free.—F. W. GELDER, Sturton, Lincoln.

30TH SEASON.—STOCKS, SWARMS, NUCLEI, and QUEENS, imported Italians, 7s. 6d.; British, 5s.—E. WOODHAM, Clavering, Newport, Essex. z 3

SHALLOW FRAME SUPERS, with 8 clean extracted Combs, 7s. 6d.; Champion "Never Swarm" Hives, 20s.; "Never Swarm System," 12 years' absolute success, 3½d., free.—HARRIS, Wavendon, Bletchley, Bucks. y 96

3 NEW "W. B. C." HIVES, 12s. 6d. each.—PRITCHARD, Wainalong-road, Salisbury. y 92

NATURAL SWARMS of my hardy prolific strain English Bees, not less than 4 lb., 12s. 6d.; 5 lb., 15s.; 6 lb., 18s.; packages to be returned, ready in about fortnight; guaranteed healthy and safe arrival. Orders booked now executed in rotation.—WHITING, Apiaries, Hundon, Clare, Suffolk. y 89

FOUNDATION-STRETCHING PREVENTED by simple device. Sample set, with directions, P.O. 1s. 1d.—W. PALMER, 174, Curzon-street, Netherfield, Nottingham. y 86

QUEENS, Blacks, Carniolans, Golden-all-overs, and Italians, by return post; every Queen guaranteed satisfactory; Virgins of above ready June 1; book now. Descriptive list free.—"CRUADH" APIARIES, Ballyvarra, co. Limerick. z 11

1 CWT. OF HONEY, fair quality, in four tins, 42s., carefully packed; a few dozen Sections, 7s. 6d. to clear, glazed and carefully packed.—W. WOODLEY, Beedon, Newbury. I cannot book any more swarms this season; full up. y 76

CLOVER HONEY, splendid quality, 14 lb. tins, 7s. 6d., sample free; Bedding Geraniums, Jacoby, Vesuvius, Raspail, strong, hardy, autumn-struck, in 3 in. pots; Ivy Geraniums, white, pink, &c., named kinds; thousands of annuals, ready for planting, well hardened Stocks, Asters (Comet and Victoria), Lobelia, Scabious, &c.—Prices from BARNES, Roxby Apiary, Thornton Dale, Pickering. y 82

HARRISON'S SPECIAL "RED HEATHER" BAR-FRAME HIVES, fitted with 10 Bar-Frames, Section Rack, Dummies, complete, 14s. each. Approval.—HARRISON, Bee Farm, Middleton, Pickering. y 72

EGGS FOR HATCHING, from finest pens of utility birds; Black Minorcas, Brown Leghorns, White Leghorns, 2s. 6d. sitting, unfertiles replaced.—HARRISON, Bee Farm, Middleton, Pickering. x 41

SECTIONS WANTED, in any quantity (glazed). State lowest price delivered, and about when ready.—HONIELADE CO., 48, Bermondsey-street, London, S.E.

PROTECT YOUR FRUIT.—Tanned Garden Netting, only best quality supplied; order promptly, as nets are scarce and must be dearer; 25 yds. by 8 yds., 50 yds. by 4 yds., and 100 yds. by 2 yds., 9s. each; add 10 per cent. for other sizes.—L. WREN AND SON, 139, High-street, Lowestoft. y 64

WANTED, for Scientific purposes, QUEEN BEES and WORKER HORNETS. Will brother bee-keepers oblige?—HERROD, Apiary, Luton.

GILLIES MARVELLOUS CONTROL-CLOTH, in vest pocket case, with clearly printed instructions for manipulation of Bees; two delivered anywhere, 7d. stamps.—43, Dawson-street, Dublin. Agents wanted. y 61

Editorial, Notices, &c.

WEATHER VARIATIONS.

THEIR EFFECT ON BEE-OPERATIONS.

The sudden and remarkable changes in temperature noticeable during the past month—so far as they have affected bee-operations—will show the futility of any attempt at laying down hard-and-fast rules for work among bees applicable for even a couple of days beforehand. We allude to this fact because of recent letters from zealous beginners, who—in different words—have mentioned the advisability of having a special column in each issue of the B.B.J. headed "Work for the Week," giving therein full instructions "what to do and how to do it." We admit the usefulness of such a column if the metaphorical clerk of the weather were available for consultation; but when stubborn facts are taken into account we fear such a column would be misleading rather than helpful.

At the same time, we may offer a few useful hints regarding what may happen any day. Stocks of bees are, as a rule, known to be in first-class condition in districts extending from the proverbial John o' Groat's to Land's End, and while, for the time being, cold winds, rainy days, and low temperatures generally stop any attempt of bees to swarm, it only needs a change such as may come to-morrow and bees may be swarming everywhere, in some cases without a queen-cell being even started. Consequently a parent stock may possibly be rendered queenless without the means of rearing a successor through unpreparedness on the part of the bees to provide the means of raising one, unless special measures are adopted to avoid such a calamity.

We therefore advise readers—in cases where any doubt exists—not to hive swarms on new stands till it has been ascertained that queen-cells are formed in the parent hive, and, failing this, to return the swarm and give more surplus-room.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

SOME FANCIES AND FALLACIES.

[6722.] It was an old, and odd, fancy amongst our forefathers that it was unlucky to purchase bees, and many of them would not on any account accept any coin or coins in exchange. A species of barter, however, seemed to prevail, and some other commodity was graciously accepted in lieu of a swarm or hive of bees. Some would not make a deal even in this round-about way, but accepted the swarm and paid for it out of the proceeds of the surplus gained at the end of the season. Nowadays bee-keepers have surmounted such superstitious fancies; and dealers in bees, hives, and honey are becoming an important section of our commercial class, all of them eager to sell *anything* for prompt cash.

Carrying bees over running water was of old considered to militate against their future well-being; so, instead, long journeys were undertaken in order that this "feat" might be avoided. The same does not appear to have held good when hives were to be carried up or down a stream, as witness the concerted transporting of boatloads of hives up and down the Nile in order to catch the successive honey-flows in the different reaches of the river. Nor did it bring about any evil consequences when they were carried over the ocean, because we know that many of the early emigrants to the New England beyond the seas carried bees along with them, and that many of these multiplied exceedingly and replenished the new country with bees, even colonising in advance of their enterprising owners.

Certain days were unlucky. Friday seems to have been a day about which there was a considerable amount of superstitious uncertainty. Wednesday, in other parts of the country, was a day ominous of evil, but why I know not. Old Christmas Day was one on which bees might be purchased with safety, as then they were certain to prove a success. In some parts August 10 was looked on as being a "jubilee" amongst bees. Sunday, in particular, is a favourite one for bee swarming, and of all times on that special day they choose the hours of service. At home, as a boy, I remember we were certain to have swarms off on Communion Sunday, which fell on the last Sabbath of June or the first of July. Many have informed me of similar experiences.

It was of old thought that if bees settled as a swarm on dead wood they would turn out a failure. It might predict the death of the bees or it might foretell the departure of some member of the bee-keeper's family. Curiously enough, the only swarm I ever had which settled on dead wood dwindled and died. I had no superstitious fancies on the subject, however. It was a very windy day, and the swarm, having settled on a stout raspberry stake, got hustled about consider-

ably. Many of the bees were crushed by the waving rasp-canes driven about by the gale. Amongst them the queen got injured, fatally, I found later, for she never laid an egg. It was in my novitiate days, and the strange behaviour of that swarm was a perfect puzzle to me. Now I could hinder its demise in spite of supposed fate. Quite recently an instance was given where the death of an owner "followed" the lighting of a swarm on the rail of a fence. The explanation was a simple one, the doctor knew for long that the man had a weak heart. Perhaps, indeed, the excitement attending the chasing and hiving the would-be truant swarm had some influence in bringing about the collapse.

Speaking of this gloomy subject naturally leads to the strangest of all the fancies and fallacies superstition has woven round the history of this wonderful insect. "Telling the bees" is a sacred custom or institution with many to the present day in this country, on the Continent, and in the New World. On the death of one of the family, and especially of the head of the household, the bees must be informed that they have lost their master. Some carry this out by marching along the line of skeps, tapping on each with the key of the front door and telling the inmates of each hive that they have lost their master. Others believe in placing a piece of crape on a stick near the hive, or fixing on a band as if to put them in mourning. I have never seen this done, nor have I seen one who has seen it, but in answer to a query from me in our journal some years ago several well-authenticated instances of the survival of this superstition, even to the present time, were given from various parts of the country, and several recent writers have recorded it as having come within their own personal experience. On the Continent they go a step further and turn up their hives, even in winter, when the funeral procession is leaving the house.

Whittier, the American poet, has a very touching poem on the subject, in which he shows that the custom was carried on in the New World, and that bees were *told* of the death of their owner in his experience.

Naturally, when the loving hand of the owner is withdrawn, often little care is given by those who dread a bee's sting. As a consequence, bees swarm themselves out or starve to death for want of a little attention, or are left a mere handful to take their chance. Death naturally follows, and so superstition gets another "proof" to deceive the unlearned in her lore. Two singular instances of this came under my own observation, but investigation showed nothing supernatural.

Even yet some cottagers will on no account allow their condemned skeps to be driven, and would rather sulphur them, because they honestly believe ill luck to their other colonies will follow this innovation, so strange to their old-world notions. It appears to their untutored intellects a piece of legerdemain smacking of witchcraft. Many for a long time clung to the fancy that straw was a better home for the honey-bee than wood, and a long-hugged fancy, even though it is a fallacy, dies hard. Indeed, it still lives, and that to a greater extent than some would believe.—D. M. M., Banff.

BEE RESEARCH.

[6723.] Some most interesting questions for bee-keepers and for naturalists have recently come to the fore. As nature-studies they are fascinating; in bee-craft they give hope of the greater power which knowledge is said to be.

1. The flight of the drone and queen is one of these, and it may well be hoped that exact observations may prove of highly practical value to queen-raisers. The fulfilment of "D. V.'s" promise (6718, page 204) will be looked forward to by more persons than Mr. Weston. Those of us who live in crowded cities and love the country with its pursuits envy gentlemen who have the studious habit and time and opportunity to carry out such researches.

2. Quite recently Professor Priestley, of Bristol University College, lecturing on plants and insects, adverted to a somewhat recent article in the *Spectator* (which I do not remember having seen noticed in the B.B.J.), calling in question the view generally held by bee-keepers that bees visit one kind of flower only in any particular flight. The lecturer invited his hearers to make exact observations in this direction. Does not such an appeal become a pressing one to your readers? We know that honey comes in batches; so does pollen. It would seem that the scent of the clover-field or heathery moor may be an irresistible lure to the bees, as well as the masses of bloom to their eyes; and that the rapid succession of spring flowers, fruit blossom, lime, clover, &c., all in mass, so to speak, indicates the strong likelihood that bees have one attraction at one time. Nature would seem to solicit the bees to do their work of pollination without the useless and wasteful admixture of the precious, though abundant, granules carried by them from plant to plant. Surely here is a field for wide and careful observation the results of which could not be barren.

3. Now comes Mr. Farmer (on page 203) with his very practical inquiry as to the loss of queens in spring. Again, the

townsman has no chance against the dweller amongst his bees. But he loses his queens all the same if he pulls his hives to pieces when he makes early spring visits to his apiary. May it not be partly that in spring, and a little before swarming is in view, bees seem more ready to supersede their queens than at other times, and so more readily resent provocation? The wise bee-keeper always reduces this provocation to a minimum in his examination of hives to know if they are still supplied with food, to give food if need be, and to add frames if required. He carefully avoids admitting the chill air to the middle of the brood-nest; and if he would know when to give room, he prefers to look at the bees coming in and going out, or along the spaces between all the combs, or at the top edges of his combs, for the dainty lace edging of white wax—all this rather than searching for queen-cells before they are formed. Then he knows when to clean floor-boards, when to give supers—that is, just when the temper (I was going to say temperature) of the bees presages swarming. I imagine the operations he may thus find necessary will cause very little trouble among the bees, and especially between them and the queen. True, Mr. Farmer is not inexperienced or careless in handling the bees; I make no such suggestion. I only try to give one possible, and perhaps only partial, reply to his inquiry, in suggesting that every avoidable operation in the hive is highly dangerous before the spring increase of population has well set in.

4. A curious question was raised ten or a dozen years ago: "Do queens lay eggs in queen-cells?" Did we ever get in the B.B.J. an answer to the question, put to me at the Council table, "Have you ever seen a queen lay in a queen-cell?" —S. Jordan, Bristol, May 24.

DEALING WITH FOUL BROOD.

[6724.] I am pleased to note that in "Queries and Replies" (3514, page 207) you state that in skilled hands the text-book directions will avail for the treatment of foul brood. Such is my own experience, save that I do not use naphthaline or medicine. I simply spray in good time, and renew the combs annually. My neighbour, an eighth of a mile away, threw out a large amount of infected comb rubbish in her garden last autumn. I made sure that I should have a busy time this season, but I am most agreeably disappointed, for my stocks are remarkably healthy, and in one only have I found two or three slightly affected cells. This has not spread, and the colony is in a grand condition. Of course I cleaned out the first cells observed and sprayed them. It is quite certain that if my bees get infected later it will be from some fresh source, as all last year's stores have been consumed in raising brood. Every stock has a 1906 queen, and there is nothing like a young queen for producing a vigorous stock. At the time of writing (May 24) no honey has been gathered and feeding is required. We are wind-swept, and are more backward, I notice, than is the case in Scotland, so far as this part of Cornwall is concerned. I think that if foul brood does much damage it is chiefly the result of want of early notice and treatment. It should never be allowed to reach the spore stage. The appliances are then not infected.—W. J. Farmer, Redruth.

BEES BALLING QUEENS.

[6725.] Referring to Mr. Farmer's letter (6717, page 203) on the above, I have noticed cases repeatedly where on opening hives a week after spring examination queen-cells were formed and the queen missing. In the novitiate days of my bee-keeping, I, in ignorance, put it down to injury or supersedure, but later on came to the conclusion that it could be nothing else than "balling." Always working carefully, and in flying weather, I could not account for it, and in consequence I of late years have troubled the bees less. Often on seeing cases reported in the B.B.J. of loss of queens in spring, which are generally supposed to be the result of spring flights, I felt tempted several times to write on this subject of "balling," but left it, as I notice the subjects one wants to learn about generally appear in time. Two seasons ago I bought a virgin queen of the "All Golden" strain, which, of course, was fertilised by local drones. The progeny were certainly vigorous, and the queen has proved exceptionally prolific; but owing to my having placed her in a small nucleus-hive when received, I was obliged to remove her, as the stand on which the nucleus-hive was placed would only hold a five standard frame box, and, of course, the flying bees went to the old situation, where I placed a weak nucleus. This rearranging so weakened the "goldens" that they began casting out the drones. This happened about three weeks before the honey-flow from clover. They only got built-up for heather, and filled twenty-four sections there. I forgot to say that several solid frames of brood were supplied to other hives from the stock when in the five-frame nucleus.

Although the bees were a bit savage, I reared a number of queens in "Sladen" cups from the stock; but I am now almost afraid to open the stocks thus headed, as the reception one may get from the bees is so doubtful. Smoking, whether in

light or heavy doses, seems to have not the least effect, as the bees come at you like demons immediately you put the smoker down and attempt to move towards a frame. Thus the extreme care and slowness of one's operations, along with the tension on the nerves, rob bee-keeping of much of its pleasure.

I am now endeavouring to replace them with "all blacks"; but, after advertising for a month, I have had no applications, which leads me to think everyone wants to keep what he has. The season, however, has been cold, and probably replies will come later. A case in connection with balling I had this month with one of the queens from the cups mentioned. It was a five standard frame nucleus from last year, and as I thought the bees were short of stores I examined the hive, but no sooner had I begun than I heard the cry of a queen which is peculiar to "balling." Anyway, I put it down to the queen. The sound is familiar to my ear. I opened the hive quickly, took the ball of bees in my hand, and separated them with my finger; but, being stung in the palm, I missed the queen, which I found later in the hive-bottom just giving her last kick before death. I was very vexed, as the frames were nearly full of brood in all stages.

The thing which struck me most was the extreme nervousness shown by all the bees; they ran into heaps at the frame corners, and fell off in solid clusters, leaving the brood with hardly a bee on the combs to attend to them. If this nervousness is one of the traits of the new bee, I say away with it, as this is not the only stock in which it has occurred.

Re sale of honey. Last year I had offers from two large firms—one in Edinburgh and one in Liverpool (after sending samples)—of 7s. per dozen for sections delivered, and the sections nearly fit for the show-bench. It seems to me that we bee-keepers are trying our best to cut our own throats.—J. Nicholson, Langwathby, Cumberland.

PREPARING FOR THE HARVEST.

AN AMERICAN METHOD.

[6726.] At this time of year it is the aim of all enthusiastic bee-keepers to strengthen their stocks for the clover harvest, which will soon be upon us, so that they will be teeming with bees.

At the same time it is the desire of most bee-keepers to prevent swarms, which have a way of coming out when it is least convenient—when the bee-keeper is not at home, and when the honey-flow is just nicely under way.

Swarming, as we all know, is associated with an overcrowding of the hive, and a curtailment of the queen's egg-laying, owing to the cells of the brood-nest being nearly all occupied. The following simple manipulation has been found most useful, and was first, I believe, advocated by Mr. Alexander, of American fame, and deserves to be more widely known in this country. It has always worked well in those instances where I have known it tried.

For its manipulation it is necessary to have a hive that will take two standard brood-chambers one above the other, or lifts high enough so that they can be temporarily converted into an upper brood-chamber by sliding in the two pieces of wood the height of brood-chamber rabbets, to support ten frames. About three weeks before the anticipated honey-flow, when the queen is beginning to get crowded in the brood-chamber, the hive is opened, and all the frames of brood except one are removed into what we have prepared as our second brood-chamber.

This is left in the centre of the original body with the queen if she be found, and to it are added nine spare empty combs or sheets of foundation. A queen-excluder is placed over this, and above the rest of the bees and brood. If the queen is not found, the bees must all be shaken from the combs which form the upper body in front of the hive, to ensure her majesty being in the lower hive. At the end of six days all the combs above the queen-excluder are examined, and any queen-cells destroyed. Bees often act as though they were queenless if they have brood separated from their queen by a queen-excluder. In three weeks' time from the original manipulation all worker-brood will have hatched out and the hive be full of bees. Now replace the upper combs with supers, storing the old combs for a future time, or using them in some other way.

What advantages do we derive?

It gives the queen ample room to go on with the egg-business just when she is in full swing, and if left would be beginning to get cramped for room. So she goes right ahead. The colony has its thoughts diverted from swarming, owing to the abundance of room. What little honey comes in is all stored in the upper loft as the young bees hatch out, and this gets the bees into the habit of storing above the excluder, so that when the super is put on it is occupied straightaway. Further, this must be so, because the queen in the lower hive will have filled the combs with brood up to the top-bar, as no honey will have been stored in the lower hive during the previous three weeks, it being below brood. Bees never store below brood, save temporarily, when honey is tumbling in in profusion. It would be interesting, Messrs. Editors, if, with your permission,

readers of the BRITISH BEE JOURNAL would give it a trial and report.

If increase is desired, it gives a very simple method, though of course with an inevitably lessened honey-surplus. At the end of a fortnight from the first manipulation lift the upper hive on to a new stand, giving at the same time a queen-cell or queen, or the upper hive can be divided into several nuclei. The upper hive having consisted of only sealed brood and chiefly young bees, few will return to the old stand, and there will be no chilled brood. In the old method of increase by dividing, apart from the danger of chilled brood, the bees of the two halves are often disheartened by their sudden loss in numbers, and it causes them to destroy much of the young brood and eggs.—MEDICUS, Newcastle-on-Tyne.

BEE-NOTES FROM DERBYSHIRE.

A USE FOR EMERGENCY QUEENS.

[6727.] The merry hum of the bees is rarely heard here just now, for since the rollicking time they had at Easter the flying days have not numbered half a dozen. It has been altogether too cold to put supers on, though queen-cells are being built ready for the swarming that will soon occur if weather improves. I have some of the most forward stocks in my apiary to-day that I ever remember. The fat combs of heather honey I had on hand for spring feeding have dissolved into frames of brood that made the lady expert who is this spring on tour for our association gaze at them with sparkling eyes of pleasure, if not of envy, when she came round to inspect my bees. I had something like twenty of those heather-combs left for spring stimulating, and they proved very useful; in fact, I have had to use the feeding-bottle on three of the best lots already to keep them alive. I was afraid that one stock was queenless when the hives came back from the moors, as I could never manage to find the queen. So on March 15 I had a look for brood, but found none. Still unsatisfied, I again examined the frames on the 30th, but still no brood or eggs. This made me sure the stock was queenless, so having by me one of R. Brown's 1s. 6d. queens in a small hive for use in an emergency, I looked her up, and found she was alive and all right, but laying three or four eggs in every cell. I saw she was cramped for room, so on April 1 I ran her into the queenless hive, and in a single week she had nearly filled four combs with eggs. This stock, on being examined to-day, was found to have its ten frames packed with brood, the hive full of bees, and a queen-cell nearly ready for sealing over, which looks like making some work soon. But I am swarming the bees on the "Alexander" plan, and that queen-cell will come in handy soon. The mother-bee in question is the longest queen I ever saw; she seems to have a longer abdomen than ordinary queens. I should like to hear of any bee-keeper who has had a queenless stock built up in less time than the one I am writing about. If he has, I can only say he has done well. There seems to be no doubt that the queen got killed coming back from heather, as I never saw her after. Three drones were left alive in the hive till a few days ago, but young ones are hatching out now. The continued wet is making the pastures and clover grow splendidly, so if Old Sol will again show his face when June comes in we shall get a bit of this season's honey; but I fail to see how honey of 1907 is to be got in this part for the "Royal" show, unless it comes off the hawthorn, which will soon be in blossom about here.—TOM SLEIGHT, Rose Farm Apiary, Chesterfield, May 27.

FOUL BROOD AND "REMEDIES."

[6728.] Recent papers by Mr. Simmins on "Foul Brood" call for, and will no doubt receive, comment from practical bee-keepers. I will therefore content myself with a glance at the scientific aspect of some of his conclusions, and with a few further remarks which have some bearing on the question.

The statement of Mr. T. J. Burrill—quoted on page 65 by Mr. Simmins—to the effect that spores diluted with water, and kept at room temperature (65 deg. F., 18.4 deg. C.), perished in less than six months, is of no practical value to bee-keepers, and the inference drawn by Mr. Simmins from that experiment—viz., that prolonged exposure at blood-heat or hive-temperature (95 deg. F., 35 deg. C.) will kill spores—is, I think, distinctly erroneous.

In the first place, it is not the temperature of the room which directly kills the spores, but this result appears to be due to a combination of circumstances. A temperature of 65 deg. F. is sufficient to allow of germination of spores, but growth of the resulting bacilli will be slow, and death will ensue when the scanty nutrient material in the water is exhausted, the temperature being too low to allow of fresh spore formation. The wonder is that they survived so long, but probably germination of spores would be slow, and the adverse conditions would also hinder rapid multiplication of bacilli. Life would also be longer in sterile water than in ordinary well water, owing to the absence of saprophytic organisms common

in water, with which *B. alvei* would have to contend. Hive temperature, on the other hand, is undoubtedly the most suitable temperature for the development of the vegetative form, and consequently will not kill spores, whose resistance to heat is so well known. Referring for a moment to "A Lanarkshire Bee-keeper's" experience, it is difficult—not knowing the exact temperature of his slow oven—to tell exactly what would happen. The temperature could not, however, exceed 60 deg. C., for then the combs would be almost at the melting-point. Any temperature over 57 deg. C. would kill the bacilli, but would not affect the spores.

The self-cure, or apparent self-cure, of colonies affected with "foul brood" in a good honey-season has often been remarked, and it is interesting to speculate as to the causes. I say "apparent" self-cure advisedly, for how often does it not happen that colonies apparently cured by natural means are found to have a few diseased cells the following season, which may or may not develop seriously, but which are a potential source of mischief?

Mr. Simmins, I think rightly, lays stress on the vital force and energy developed by the bees in consequence of a spell of fine weather and rapid flow of honey, and in this connection we must not lose sight of the antiseptic and invigorating effect of the formic acid in the honey consumed by the adult bees and fed to the larvæ and queen. Recently, preparations of the formates of various salts have come into prominence as muscular tonics, and it seems likely that formic acid has a similar action on bees as well as inhibiting the germination of spores of "foul brood."

Professor Harrison, in his clever monograph on "Foul Brood," gives, on page 93 of B.B.J., March 5, 1903 (vol. xxxi.), analyses of buckwheat and clover honey, showing that the former contains a far greater percentage of formic acid than the latter. This is highly interesting, but no clue is given as to the source of the formic acid or as to the conditions of temperature or season, &c., which determine the percentage in honey.

Muhlenhoff contends that the acid is deposited in honey by the bees to assist its keeping properties, and as there is no evidence to show that it is present in nectar as secreted by flowers, we must accept his contention. On the other hand, it is difficult to see why the bees should add so much more to one variety of honey than to another, unless, indeed, instinct tells them that buckwheat honey requires more for its preservation.

Being myself very susceptible to bee-stings, I have had occasion to note that stings inflicted in the height of the season are far more painful than those received in the early spring. Whether the new honey is responsible for the activity of the poison glands I cannot say, but the formic acid is evidently produced for the double purpose of defending the bees' stores and helping to preserve them, and may, for aught we know, be used directly by the bees themselves for application to putrid brood.

The development of vital force above referred to enables the bees to withstand the disease themselves, and the access of energy encourages them to clear out foul brood material from the combs to the outside of hive, where after some hours' exposure to direct sunlight bacilli and spores are destroyed, this beneficial effect being due to the action of the ultra-violet rays on the oxygen of the air, resulting in the formation of peroxide of hydrogen—a powerful disinfectant—and not to the heat of the sun.

A factor which probably aids the bees in their work as scavengers is the greater rapidity with which the dead larvæ dry up in warm, dry weather, such dried-up masses being more readily removed than sticky, ropy material. During a rapid honey-flow the bees will clear out as many cells as possible to make room for the incoming honey.

My personal experience of foul brood is not sufficient to warrant a decided opinion on the practical value of Mr. Simmins's methods of treatment, nor does he very definitely lay down his plan of combating the disease. He appears to waver between faith in his bees to cure themselves and a desire to make doubly sure by the use of antiseptics.

Were it possible to simultaneously destroy every affected stock and appliance, and to prevent the importation of diseased bees and queens, at the same time ridding the country of wild bees and wasps, &c., which might be a further source of infection, the pest would be eradicated: but as this is clearly impossible, I fear we must be reconciled to the more or less constant presence of the disease, unless in course of time some sort of acquired immunity be developed by our bees.

This being so, the man who runs his apiary for profit is hardly likely to employ radical measures on the first appearance of foul brood, if he has confidence in his ability to keep the disease within such limits as will not prevent him from obtaining a profitable return. If, however, he is a trader in stocks or queens he will be wise, if he wishes to retain the confidence of customers, to at once stamp out disease without waiting for a cure by natural or other means.

Seeing that almost every apiary in this country is surrounded by others which may present a clean bill of health, it is

incumbent on the owner of an infected apiary to do his best to at least prevent it from becoming a focus of infection to neighbouring apiaries the owners of which may not be so competent to check the disease.—T. S. Elliot, Southwell, Notts.

PREVENTION OF SWARMING.

A NOVEL SUGGESTION.

[6729.] Referring to the question of killing queen-larvæ in their cells in order to kill them, and by so doing prevent swarming, may I ask: How much of a jar (or shake) is needed in order to dislodge the larva? If this could be safely done, might it not be possible to go round an apiary once a week, and, lifting every brood-chamber so many inches, let it drop suddenly, and thus kill the embryo queens in every cell where they might be? It would be interesting to have the opinion of readers who are practical bee-keepers on this question.—John W. Moir, Edinburgh.

[The above is certainly a novel suggestion, but personally we should not advise its adoption beyond using it on one stock (with queens in process of hatching) as an experiment.—Eds.]

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Orthography (page 192).—How's that, umpire? Have I caught "D. M. M." tripping? And over his own leg, too! Surely the German word is *bienen*—*i.e.*, "bees"—not as he spells it, *bein*, which legibly translated means "leg"! I am reminded of the old phonetic dispute over *either* and *ither!* Certain it is that he or I is in order! But which? Can it be that he has been pulling my *bein?* If so, I cry for a *spell* of truce!

Jottings (page 193).—(*a*) It is doubtful if "syrup fed in autumn" ever caused a queen to enter sections by crowding her out of the brood-nest. A queen is very reluctant to pass over sealed stores, and such are usually moved by the bees as enlargement of the brood-nest becomes necessary. (*b*) Would it not be better to make the distinction between a virgin and a young fertile queen quite clear in speaking of introduction? The plan given here reads as though it might refer to virgin queens, which is quite impossible. As a matter of fact, there is very little need for any precaution when simply transferring a laying queen from one hive to another normal hive in the same apiary. (*c*) The habit of cleaning the antennæ before flight is well known to most observers. Under the microscope their surface appears to be highly polished, no doubt from much elbow-grease! It is, I believe, quite established that a bee invariably cleans an antenna with the leg of the *same* side.

Bees and Rape (page 201).—How very curious that this rapine should occur during the flowering of this particular plant! But is the explanation given in the *Praktische Wegweiser* an adequate one? It is the case when bees are violently working upon other sources of honey that the odour may be easily perceived around the hives by even human noses. So, too, the internal odour of each hive must be affected. Yet the bees do not go in for indiscriminate robbing. Can it be that there is some quality in this turnip which induces demoralisation, just as the sight of a swede excites a rapacious tramp?

Size of Young Queens (page 204).—Is not "W. J. F." wrong in connecting the large size of a newly-hatched queen with her inability to pass excluder? The matters are really quite distinct. There is no doubt that a young queen does apparently diminish in size after hatching, but the reduction is solely that of the abdomen. She is, however, excluded by her *thorax*, which is unaffected by the change. A virgin queen presents her originally fine appearance again during flight, with her tracheæ full of air, which cause similar enlargement of the abdomen. By the way, has this diminution after emergence been thoroughly investigated? Is it due to distended tracheæ or to fluids which become absorbed?

Flight of Queen (page 205).—Is there any reason for supposing that the flight of a queen is swifter than that of a worker? I venture to think not, for her size is greater in proportion to her wing area. The figures given by "D. V." are somewhat crude and unchecked. The estimated radius ignores the necessary travel distance of the supposed spiral. If this spiral flight is indeed a general occurrence, the form of the cone may be exceedingly shallow. But, should it be at all pronounced, it is possible that any drone entering this *hollow cone of scent* may be at once conscious of its existence, and upon a still day be unerringly guided by it in his quest.

Death-Traps (page 205).—If No. 6719 will thoroughly paint his alighting-boards, and whilst they are wet sprinkle sand upon them, giving them, when dry and in due course, a further coat of paint, he will probably find his traps sprung, owing to the roughened surface, which will no longer hold the wet wings, and the increased foothold, which will enable a capsized bee to right itself. Not only so, but he will find these boards to be a great help to the incoming and laden bee.

Early Drones (page 205).—I discovered drones in one of my hives early in March

of this year, but was not at all surprised to find them emerging from worker-cells. The queen, indeed, seemed unable to produce workers, and I marked the hive as containing a drone-breeder. For experiment I determined to sacrifice the hive, and it has now dwindled down to one frame of brood and three seams of drones and workers. The point of interest is that the queen has suddenly begun to lay worker-eggs!

Queries and Replies.

[3517.] *Faults in Screw-cap Covers.*—I put my honey up in 1-lb. glass jars with a screw-cap metal cover lined with cork, but often find, after keeping the honey some time a black, sticky liquid in the threads of the screw between the metal covering and the glass. I shall be much obliged to you if you will tell me how to prevent this, for the black liquid, which is seen when the metal cover is unscrewed, spoils the look of the honey.—J. B. C., Loughboro', May 25.

Reply.—The appearance noted arises from the material of which the screw-cap is made. The metal is not well covered with tin, and oxydisation follows.

[3518.] *Transferring Bees from Skep to Frame-Hive.*—On April 25 I placed a skep of bees above the top-bars in a frame-hive fitted with sheets of foundation. To-day, on examining them, I found most of the bees still in the skep, which was heavy with honey. I therefore ask: 1. Ought I to do anything to make the bees stay down on the frames in order that I may get super on early? 2. Is it advisable to use a drawn-out comb (a third of which consists of drone-cells) for a swarm when I get one, as I have several spare frames of comb containing honey? 3. Please say the number of pounds of syrup one should use when feeding a swarm—which, I suppose, is the best method of making use of them?—F. E. Green, Newdigate, May 26.

Reply.—1. We fear you have put on the skep of bees too soon for securing the best results from the method of transferring adopted. The time for starting operations depends less on the date than on the bees being sufficiently strong in numbers to need room for the queen's egg-laying. This condition being reached, and lower hive made snug and cosy by warm wraps above the frames, the bees will take possession of the lower hive and transfer the brood-chamber below. 2. The skep should be lifted off, and its condition as to being full of bees, &c., ascertained. It is no use giving super-room if bees are not sufficiently strong to need it. They will not take possession of surplus-chambers before becoming cramped for room for their work of brood-rearing and surplus-storing. 3. About a half-pint of syrup daily for a week is quite enough to keep a swarm in good heart after hiving if food is not available outside.

[3519.] *Buying Bees and Appliances.*—As a constant reader of your interesting journal, I seek for advice on the following: 1. A few days ago a lady friend offered to sell me a stock of bees and all her appliances; but on going to see the condition of the bees, &c., I found, to my dismay, nothing but dead bees in the hive; they could not have been dead long, for the owner said the bees were flying quite recently. However, I bought the hive and other things, and would like to know if the enclosed comb is diseased? There are no stores in the hive; the comb is more or less like the enclosed, only no bees on it. 2. If there is no disease about it, is it fit to use again, or must I render it down for wax? 3. I also send a small piece of comb from another skep. Please say if you thing such combs are of any good for rendering down for wax? Name sent for reference.—Amateur, Westmorland, May 25.

Reply.—1 and 2. We should say the bees have died from starvation and hunger, there being no sign of disease in comb. The comb is so old and black as not to be worth troubling to melt it down; it should be burnt. 3. The same may be said of comb from the second skep.

[3520.] *Putting on Section-Racks.*—I opened a well-stocked hive on May 23, and found two queen-cells on one frame. I replaced the frame, and put on a section-rack with excluder-zinc below. But no sooner had I fixed the rack than I saw a bee dragging the grub which I have enclosed about the alighting-board; it then flew on to the ground with it. I attempted to take it away, but off it went down the garden with its burden. Will you please say what kind of grub it is? Name enclosed.—A Reader of the B.B.J., Chipping Norton

Reply.—The grub received is simply a dead larva, such as it is quite common to see carried out in uncertain weather such as we have had of late. It need cause no alarm at all.

TITS AND HIVE-BEES.

I beg to enclose a cutting from the *Chester Chronicle* on the much-discussed question of "Tits and Hive-bees," thinking same would be of general interest to readers of the B.B.J. I hope you will find space for it.—J. Griffiths, Tarporley.

"Having been so often informed of the blue-tit and great-tit feeding upon hive-bees, the following observations may prove of some interest to apiculturists. During the latter part of February of this year I paid a visit to my brother's apiary, with a view to making some observations on the subject in question, but, owing most probably to the prevailing easterly winds, only a few birds were observed in the surrounding trees. Previous to the second visit a wooden structure had been erected immediately in front of the hives, which, I venture to say, proved very efficient, and, having taken up a position inside the edifice, only a few minutes elapsed before both species of tits made their appearance at the hives in considerable numbers, and fed very voraciously on the dead bees, which had been rejected by the inner occupants of the hives. The bees were secured and conveyed in the beak of the bird to an adjoining tree, only a few yards distant, pulled to pieces, and eaten piecemeal. Many bees were flying about and stationed at the hives at the same time; but no attempt was made whatever by the tits to take the bees alive. It is hoped the above facts will throw some light on the subject, and to some extent protect these tiny members of the feathered world.—A Newstead, Curator, Grosvenor Museum, Chester."

Bee Shows to Come.

June 25 to 29, at Lincoln (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Special classes for the Lincs. B.K.A. only. Schedules from E. H. Young, Sec. B.B.K.A., 12, Hanover Square, London. **Entries closed.** Schedules and particulars for Lincs. B.K.A. classes from R. Godson, Hon. Sec. Lincs. B K.A., Tothill, Alford.

July 17 and 18, at Burton-on-Trent.—Honey Show of the Staffordshire B.K.A. Special prizes, including five Open Classes. Prizes, 20s., 10s., and 5s. Single 1 lb. Jar and Section (entry free). Schedules from Joseph Tinsley, Expert, Chebsey, near Stafford. **Entries close June 22.**

July 24 and 25, at Cardiff.—Annual Show of the Glamorgan B.K.A., in connection with that of the Cardiff and County Horticultural Society. Honey, Wax, Appliances, &c. Classes for members, novices. Five open classes, with prizes for sections and bee appliances, 40s. and 20s. Entry fee for one or more of the open classes to non-members, 2s. 6d. Schedules from Wm. Richards, Hon. Secretary, The Red House, Gabalfa, Cardiff. **Entries close July 20.**

August 5 (Bank Holiday).—Annual Honey Show of North Norfolk B.K.A., in connection with the Melton Constable Horticultural Association. Schedules from C. J. Cooke, Edgefield, Melton Constable. **Entries close July 27.**

August 8 to 10, at Barnsley.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. Schedules and form of entry from John Maughan, Secretary, Blake-street, York. **Entries close June 29.**

August 21, at Lancaster.—Show of Honey, &c., in connection with the Lancaster Agricultural Society's Annual Show. Open Classes for Extracted and Comb Honey, also Beeswax and Produce. Challenge Cup value £5 5s., also six silver and bronze Medals, and other Specials. Schedules from Thos. Armitstead and Son, Auctioneers, Lancaster. **Entries close August 7.**

August 21, at Radstock.—Annual Show of the Somersetshire B.K.A., in connection with the Radstock Horticultural Association. Seven open and two free classes; good prizes. Schedules from Herbert J. Moore (Show Secretary), Foxcote, Radstock. **Entries close August 14.**

August 28, at Chester (Cheshire Agricultural Society's Show).—Bee and Honey Department, under management of the C.B.K.A. Open classes for Hives, Sections, and Extracted Honey. Increased prizes. Members' classes. District class; special prizes offered by Chester Tradesmen's Association. Schedules from T. A. Beckett, St. Werburgh's-chambers, Chester. **Entries close August 7.**

Notices to Correspondents.

W. McAllister (Wisbech).—*Joining County Association.*—Mr. R. Godson, Tothill, Alford, is hon. sec. of the Lincs. B.K.A., and would send you copy of rules on application. It is very creditable to yourself if, without any other help than the "Guide Book" and the B.B.J., you have been able to make all your own hives and manage them with advantage, as stated.

J. W. M. (Edinburgh).—*Buying Swarms.*—We have never before heard of what could be called "a sour smell" about bought swarms. There is a certain odour about a swarm of bees when thrown from swarm-box for hiving, but we cannot describe it as "sour."

Baymon (Rushden).—*Pollen in Supers.*—1. It seldom happens that pollen is stored in shallow-frames or in sections if excluder-zinc is used between brood-bodies and surplus-chambers. Occasionally a few cells have pollen in them, but very seldom. 2. Full directions how to pack honey for sending to shows are given in the "Guide Book," with illustrations of the appliances required. 3. For all honey save that from heather an "extractor" is used. Heather honey needs a special "press" made for the purpose.

F. Eccles (Wakefield).—*The Claustral Hive.*—We do not think the detention-chamber" attached to this hive could be adapted (as in sketch) for use in a bee-house. The ventilating tubes would be to some extent deviated from their original purpose. If you will make a season's trial of your proposed plan we will be very pleased to publish results.

Confectioner (Hexham).—*Honey Sweetmeats.*—We are unable to give recipes for honey sweetmeats, though it is within our knowledge that many such are made. It only needs to visit a large show where honey trophies are staged to see sweetmeats made from honey included.

B. E. B. (West Ealing).—*Honey Candy.*—Your sample, made from Bro. Columban's recipe four months ago, is very good indeed. It remains soft and in a capital state for use.

J. Benyon (Chester).—The dead drones show the usual genital signs of having been engaged in mating-flights. The queen is evidently a young one; it may have been out on a mating-trip, and entered the wrong hive on returning. Or if the hive in question has swarmed, the young queen will merely be a surplus one killed off in the usual way by the reigning queen of the stock.

Suspected Combs.

Hutchon (Pwllheli).—Comb is not affected with foul brood (*B. alvei*). The dead larvæ are evidently closely allied to what is known in America as "black brood."

Anxious (Hants.)—Foul brood is developing rapidly in comb sent, and we advise destruction of combs without delay in view of thirty stocks now working well in your apiary.

J. D. C. (Swindon).—The two cells in bit of comb contain drone-larvæ only, which are of no use in judging with regard to disease.

H. P. (Notts). —Dead brood in all sealed cells of comb sent is like that of black brood shown at the B.B.K.A. Conversazione some months ago.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

HEALTHY NATURAL SWARMS, 10s. each, by weight 2s. 6d. per lb. — R. WHITTING, Manea. z 57

HEALTHY SWARMS, 11s. 6d., best strain; inspection invited of my 45 Stocks; Sections, 9s. per doz., guaranteed safe arrival. Deposit.—P. HANSON, Gardener and Bee Expert, Apiary, 3, Gladstone-cottages, Norwood Green, Southall, Middlesex. z 55

QUEENS, delivery after June 7th, any number (see advertisement page v. last week); Nuclei, 4-frame, with Queen, 12s. 6d.; started now would make a full Stock for next season, or store surplus at Heather.—CHARTER, Tattingstone, Ipswich. z 52

QUARTER-PLATE STAND CAMERA AND OUTFIT, 30s., or exchange for Bees. — C. CARRINGTON, Halsworth-road, Hitchin. z 47

STRONG NATURAL SWARMS, guaranteed healthy, 12s. 6d., packed, safe delivery.—CADMAN, Codsall Wood, Wolverhampton. z 48

PRIME NATURAL SWARMS FOR SALE this season as usual; orders now booked, 12s. 6d. and 15s. each — PERCY WILKINS, Letcombe Regis, Wantage. z 22

NEW HONEY, good quality, bulk or jars; sample, 2d.—CHARTER, Tattingstone, Ipswich. z 53

Special Prepaid Advertisements.—*Continued.*

SWARMS, 12s. 6d., Sladen's noted strain; Nuclei, 12s. 6d.; Virgins, 1s. 9d.; Fertiles (shortly), 5s. 6d.; book now.—PAUL, Salisbury-road, Bexley. z 51

GERANIUMS, strong healthy plants, Madame Crouse (pink ivy), Hermoine (double white), 12 1s. 6d.; Tomato Plants, Holmes' Supreme, 12 1s.; all carriage paid.—W. H. KNIGHTS, Hunstanton. z 45

EXCHANGE HIGH-CLASS COVENTRY BICYCLE, 27in. frame, Coaster hub, and front rim brakes, best tyres, with all accessories, condition as new, for Stocks or Swarms of Bees, or will take £5 10s. — R. BULLOCK, Park View, New Farnley, Leeds. z 43

INCUBATOR, 60 eggs, and Foster-Mother, both copper tanks. Sell 20s., or exchange for Bee appliances.—PARRY, Dolifan, Carmel, Groeslon, Carnarvonshire. z 38

"DOOLITTLE" STRAIN GOLDEN QUEENS, Virgins 1s. 6d., Fertiles 5s.; all orders executed in rotation; book now, stating date wanted. Customer writes: "Your Queens head the best colonies I have."—D. TAYLOR, Ilminster. z 42

STANDARD FRAMES, healthy, 15 for sale, packed, on rail, 7s. 6d.—YARWOOD, Beattock, N.B. z 39

EXTRACTOR, EMPTY HIVE, and other appliances for sale.—Write, 13, The Circus, Greenwich. z 41

NATURAL JUNE SWARMS, 10s. 6d., carriage paid; boxes to be returned.—MISS MARSHALL, Sutton Vicarage, Ely. z 40

WANTED, STRONG, ACTIVE LAD, for market garden, must understand bees.—Apply, J. W. SPARKES, Nurseryman, Little Melton, Norwich. z 44

WANTED, TWO STOCKS, in Frame Hives.—Particulars to G. KITCHING, Hathersage, Sheffield. z 54

STRONG NATURAL SWARMS, guaranteed healthy and safe delivery, 10s. 6d., 13s. 6d.—DART, Two Mile Ash, Horsham. z 56

STRONG HONEY PLANTS, Borage, 9d. doz., 3s. 6d. 100; Forget-me-Not, 3d. doz., 1s. 9d. 100; Wallflower, 9d. doz., 3s. 6d. 100; also grand strain Antirrhinum, 6d. doz., 2s. 9d. 100; choice new grand ornamental Parsley seeds, 3d. packet. — DABBS, 234, Moseley Road, Birmingham. z 46

HEALTHY NATURAL SWARMS, 10s. 6d. and 12s. 6d.; 3-Frame Nuclei, 10s. 6d.; Stocks, on wired combs, from 20s. each.—R. CARTER, Chartridge Green Farm, Chesham, Bucks. z 50

PHONOGRAPH, Edison Gem, nearly new, with 26 Edison-Bell Records, in case, £3, cash, or exchange bees; also International Library, three-quarter levant morocco binding, as new; bookcase, &c., complete, cost £11 15s., cash £4 15s., or exchange bees.—GORDON, Bassingbourn, Royston. z 49

WANTED, GOOD HEALTHY SWARMS, 2s. 6d. per lb., carriage paid.—WM. DIXON, Central-road, Leeds. z 35

STRONG NATURAL SWARMS, 1906 Queen, 12s. 6d., 13s. 6d.; 3 Frame Nuclei, 1907 Queens, 12s. 6d.; Stocks on 10 Standard Frames, wired Combs, from 25s., with fertile Queen, guaranteed healthy.—W. WOODS, Normandy, near Guildford. z 37

SECTIONS WANTED, in any quantity (glazed). State lowest price delivered, and about when ready.—HONIELADE CO., 48, Bermondsey-street, London, S.E.

PROTECT YOUR FRUIT.—Tanned Garden Netting, only best quality supplied; order promptly, as nets are scarce and must be dearer; 25 yds. by 8 yds., 50 yds. by 4 yds., and 100 yds. by 2 yds., 9s. each; add 10 per cent. for other sizes. —L. WREN AND SON, 139, High-street, Lowestoft. y 39

Special Prepaid Advertisements.—*Continued.*

TILLEY'S PATENT ("WON'T LEAK") SECTIONS, 2 lb. size, 6d., post paid; the "Tilley Damp-proof" Hives, painting unnecessary; also the "Tilley" metal ends, fit any size bars. Particulars post free.—M. H. TILLEY, Bee Farm, Dorchester. z 21

WANTED, NATURAL MAY SWARMS, British Bees, 2s. 6d. lb. given.—NICHOLSON, Langwathby, Cumberland. z 20

STRONG NATURAL SWARMS, 12s. 6d. each; booked in rotation.—J. CRAGGS, Gilling, Richmond, Yorks. z 19

HEALTHY NATURAL SWARMS, 10s. 6d., 12s. 6d., 15s., guaranteed safe delivery.—DUTTON, Terling, Essex. z 29

SWARMS IN MAY, price 12s. 6d. each.—THOMSON AND SONS, The Nurseries, Wimbledon. z 13

BRITISH WEED FOUNDATION, Brood 2s. 6d. lb., Super 2s. 10d.; 5 lb. upwards, 1d. lb. off; postage 4d. 1 lb., 1d. lb. after; Hives, 7s. 6d., 18 by 16, for 10 Standard Frames, double-walled back and front, in. lift, telescope roof, and porch; also Hives, ditto, 18 by 18, with dummy, sliding entrance, 9s. 6d.; Self-adjusting Frames, 1s. 2d. doz., 8s. 100, post. 5d.; "W. B. C." Ends, 3s. gross, post 4d.; everything for Bee-keepers. Catalogue stamp. Cash with order.—COX, Manufacturer, Smallbrook-street, Birmingham. y 28

SWARMS, 2s. 6d. per lb., on rail; packages returnable.—PEPPER, Guide Post, March. z 9

HEALTHY MAY AND JUNE SWARMS, 10s. 6d.—G. TURL, Whitford, Axminster, Devon. y 87

30TH SEASON.—STOCKS, SWARMS, NUCLEI, and QUEENS, imported Italians, 7s. 6d.; British, 5s.—E. WOODHAM, Clavering, Newport, Essex. z 3

SHALLOW FRAME SUPERS, with 8 clean extracted Combs, 7s. 6d.; Champion "Never Swarm" Hives, 20s.; "Never Swarm System," 12 years' absolute success, 3½d., free.—HARRIS, Wavendon, Bletchley, Bucks. y 96

3 NEW "W. B. C." HIVES, 12s. 6d. each.—PRITCHARD, Wainalong-road, Salisbury. y 92

NATURAL SWARMS of my hardy prolific strain English Bees, not less than 4 lb., 12s. 6d.; 5 lb., 15s.; 6 lb., 18s.; packages to be returned, guaranteed healthy and safe arrival. Orders executed in rotation.—WHITING, Apiaries, Hundon, Clare, Suffolk. y 89

FOUNDATION-STRETCHING PREVENTED by simple device. Sample set, with directions, P.O. 1s. 1d.—W. PALMER, 174, Curzon-street, Netherfield, Nottingham. y 86

1 CWT. OF HONEY, fair quality, in four tins, 42s., carefully packed; a few dozen Sections, 7s. 6d. to clear, glazed and carefully packed. —W. WOODLEY, Beedon, Newbury. I cannot book any more swarms this season; full up. y 76

HARRISON'S SPECIAL "RED HEATHER" BAR-FRAME HIVES, fitted with 10 Bar-Frames, Section Rack, Dummies, complete, 14s. each. Approval.—HARRISON, Bee Farm, Middleton, Pickering. y 72

GILLIES MARVELLOUS CONTROL-CLOTH, in vest pocket case, with clearly printed instructions for manipulation of Bees; two delivered anywhere, 7d. stamps.—43, Dawson-street, Dublin. Agents wanted. y 61

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

Editorial, Notices, &c.

THE BEE-EPIDEMIC IN THE ISLE OF WIGHT.

Nearly a year ago reports of a sensational character appeared in the daily Press regarding a "new" bee-disease, and to these we alluded on pages 281 and 321 of B.B.J. for 1906, and pointed out that to those versed in bee-keeping literature the disease, which was stated to be paralysis, had been known for many years past. We also on page 321 gave a full description of the symptoms of the disease and the known remedies. We have not heard if any of the remedies had been tried, but since that time the story has been repeated not only in the provincial but also in the London papers, and of course the most has been made of it. Even so serious a paper as the *Daily Telegraph* published on May 21 last the following extract from the annual report of the Hants Bee-keepers' Association:—

BEE-EPIDEMIC.

"ISLE OF WIGHT SCOURGE.

"For months past bee-experts and apiarists of all classes have been endeavouring in vain to discover and stamp out a destructive epidemic which has attacked bees in the Isle of Wight, killing them in thousands, until now they are becoming gradually extinct in the island. Up to the present no remedy has been discovered. The Board of Agriculture recently sent a special inspector to the island to investigate the matter, and although he has been unable to completely diagnose the complaint, his report is awaited with a good deal of interest. Meanwhile, some pointed observations on the epidemic are made in the annual report just published by the Hampshire and Isle of Wight Bee-keepers' Association, of which Princess Henry of Battenberg is the president, and Mr. E. H. Bellairs, of Christchurch, hon. secretary and treasurer. The report states:—

"'Perhaps the most important subject to be dealt with in our report is the "new" bee-disease that is raging in the Isle of Wight. Attempts have been made to minimise the matter, and those who pleaded through the Press for public aid have been somewhat unfairly criticised in our bee journals and papers. There is ample evidence to show that a new—or, at all events, not understood—disease among bees has spread east and west, north and south, throughout the island, and those who are in a position to know affirm that over 50 per cent. of the stocks in the Isle of Wight have already succumbed. This is sufficiently serious, and has been a heavy financial loss to many, for attempts again and again to start have failed, and hives, combs, and appliances have become a dead loss. The wiseacres who say that the disease is not new have doubtless a certain amount of foundation to stand on, for nothing is truer than the assertion that "there is no new thing under the sun," but twenty-five years' acquaintance with bees, bee-men, and bee-literature has not revealed anything quite so deadly and mysterious as this same so-called "bee-paralysis." To the bee-expert it is as terror-inspiring as anthrax to the cattle-man, and should it spread over England, as it has done over the Isle of Wight, there will be no need of bee-societies, for there will be no bees. Whether anything will be discovered to prevent its spread remains to be seen.

"'The "stamping-out" process seems to be the most likely one, but how is this to be applied to careless people, who do not even understand when their bees are ailing? The majority of bee-keepers belong to the poor labouring classes who find a few stocks a valuable financial aid, and it is just this class it is so difficult to help. The Board of Agriculture has sent a Cambridge scientist to the Isle of Wight to study the question, and in due time we shall doubtless hear that the microbe—the "tiny life" that is responsible for the paralysis in the bee's body—has been isolated, and brought within the range of human knowledge. But any attempt to physic him out of existence seems as little likely to be effective as the many attempts and "certain cures" for *Bacillus alvei*. However, we are grateful to the Board of Agriculture for what it is doing, and we do not forget that hope and faith are two of the fundamentals to life.'"

We print a report from Mr. J. Silver, who has recently made a tour of the island, which shows that the disease has caused considerable havoc, but we do not take such a pessimistic view of the future as the report just quoted would lead one to do. We do not wish to minimise the seriousness of the outbreak, but from the description of the symptoms as given by Mr. Silver we believe the disease not to be paralysis at all, but one frequently confounded with it. On the Continent it is known as "mal de mai" and to Germans as "Maikrankheit," because it usually makes its appearance in May and June when an early spell of warm weather is followed by cold and wet or foggy days. In 1853 and 1855, after cold springs, epidemics of this disease raged in France and neighbouring countries, and in 1865 so severe was the epidemic in several of the cantons of Northern France that the hives were reduced to a third, or even in some places to a fourth. So virulent was the disease that it was compared to cholera. In these cantons bee-keeping has for many years been profitably carried

on, so that there is no cause for fearing that the craft will be exterminated even if the disease in the Isle of Wight should spread to the mainland. We have at different times had a few cases in our own apiary, but as they were of a mild character drastic measures were not necessary in order to get rid of the malady, as it generally disappeared of itself.

In the year 1865 Dr. E. Assmuss described the disease, in "Die Parasiten der Honigbiene," as one caused by a well-known micro-organism termed *Mucor mel-*

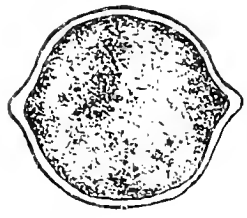


Fig. 1.

litophorus. This was further studied by Drs. Benneman and Hübner, who published the results of their researches in the *Bienenzeitung* of 1881 (page 7). They found spores of what they termed *Mucor mucedo* (Fig. 1) among the fat corpuscles of the abdomen, and also discovered

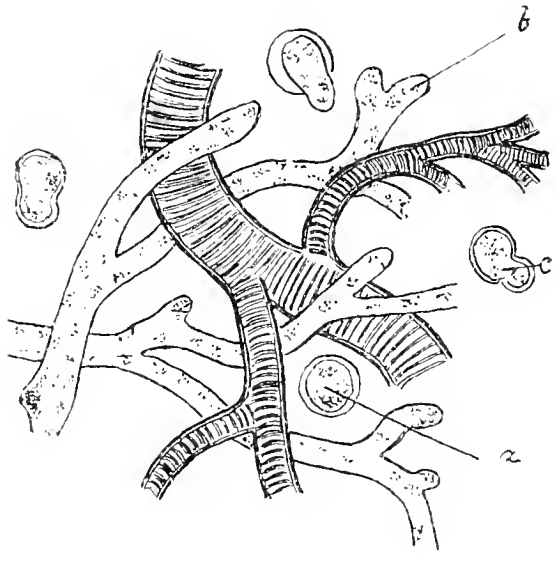


Fig. 2.

threads of mycelium encircling the tracheæ (Fig. 2: *a*, spore; *b*, mycelium; *c*, yeast-like cell), in some cases so thickly as to prevent the circulation of air for the distension of the air-sacs. This is the reason why the bees are unable to fly. Spores developing mycelium (Fig. 3) were also found in abundance in the lower portion of the abdomen, and these, pressing on the large intestine, obstruct the anal opening and cause abdominal distension. The yellow matter described by Mr. Silver is no doubt partially digested pollen accumulated in the large intestine. In some districts of Germany *Mucor mellitophorus* attacks a great number of both young and old bees, and is so abundant in some colonies that it frequently stops up the chyle stomach completely with spores. In this way digestion is impeded, and, according to Drs. Leuckart and Dönhoff, violent dysentery follows.

The disease is attributed to improper food, pollen damaged by early-morning frosts being mentioned as a contributing cause, and salicylic acid administered in syrup is the antiseptic used. Herr F.

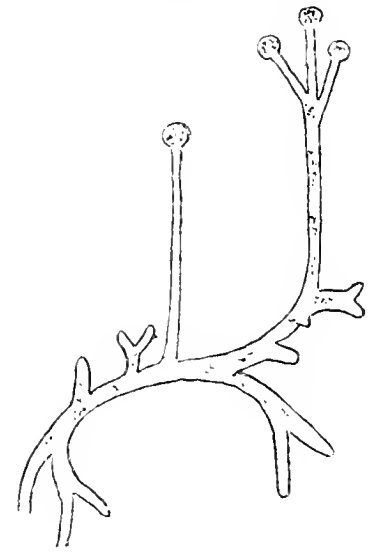


Fig. 3.

Gerstung, editor of *Die Deutsche Bienenzucht* and one of the leading German bee-keepers, attributes the disease to bad food and fermentation caused by it, and says the cause is to be looked for several weeks before an outbreak, when the bees have been fed with syrup instead of honey. Now that so much of the sugar used is made from beet instead of cane, it is not surprising to hear of such outbreaks of disease. Whatever it may be, bee-keepers in England need not feel alarmed, as it does not necessarily follow that the disease would become epidemic even if it did make its appearance here. It would, however, be wise not to import bees from the affected districts in the island until the epidemic has subsided.

Since writing we learn that the Board of Agriculture have received a report from their special inspector, Mr. A. D. Imms, M.Sc., which will be published about a month hence. They say: "As a result of the investigations which have been made up to the present, it appears that the disease is one of the digestive system, and might be described as distension of the hind intestine. The colon and adjacent part of the rectum are enormously distended with a congested mass of material consisting chiefly of pollen grains. The distended colon exerts pressure on the large abdominal air-sacs of the tracheal system and so interferes greatly with their function. The insect in this way is unable to

expand them with the air, which is necessary for flight, and this feature, coupled with the additional weight in the digestive canal, renders the insect incapable, when badly diseased, of flying about. The movements of the legs are not impeded, but it only seems to have energy to crawl about in a lethargic fashion. The fact that it cannot fly is not, however, due to paralysis of the wing muscles. Affected stocks in the winter show symptoms similar to those of dysentery, and there appears to be some connection between the dysenteric conditions noted in the diseased hives and the disease under consideration. The death of the bees seems to be brought about finally by blood-poisoning, partly by the accumulation of toxins derived from the congested mass of waste material in the colon, and to some extent by the imperfect oxygenation of the tissues, owing to the pressure exerted on the abdominal air-sacs. The demand for nitrogenous food seems to be one of the most marked characters of the disease, but why the demand should arise is a question which it is not at present possible to answer."

It is premature to say whether the disease is the same as that described by the German scientists above mentioned, and known as "Maikrankheit," or an entirely different one, and we shall await the promised report, which may throw more light on it and show why it has become epidemic in the Island.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[6730.] So much of June as we have seen resembles March rather than the month of roses. A few hours of sunshine on the 1st heralded a heavy downpour of rain, followed by a cold, sunless day on the 2nd. To-day (Monday, the 3rd) the temperature is round about 50 deg., with half a gale blowing from the west. Work in the apiary is thus retarded, while the cold must be very trying to early swarms, unless their owners bear in mind that a little steady and regular feeding is necessary till the weather improves.

"Telling the Bees."—This saying was, in Wessex, originally called "waking," or "Waking the Bees." On the death of the owner each hive was adorned with a bit of crape, and notified of its loss by some member of the family tapping it while repeating the words, "Wake, little brownies, wake. Your master's dead—another you must take." But old customs have nearly died out, and the apiaries that graced the cottage gardens are dying out also in the village of Beedon.

If "J. B. C." (Query 3517, page 218) is careful not to fill his jars too full, and screws on the caps with the jar standing upright, and stores in a dry place, probably he will not be troubled with the "black liquid" again.

The Motor Nuisance.—I have often wondered why bee-keepers never refer to the nuisance which these horseless carriages are to those bee-keepers who live on a main road, where motors pass every few minutes, raising clouds of dust, which must of necessity settle in the nectaries of flowers in gardens, in the hedgerows, and for some distance in the fields adjoining the roads in question. Another injury is done to bee-keepers by the road authorities, who now cut many of the hedges down close to the banks, so that motorists can see each other coming. A few years ago these were white with blossom at the beginning of June; now there is practically no may bloom, while some farmers and land agents also closely cut every hedgerow and boundary, which still further curtails our breadth of forage.—W. Woodley, Beedon, Newbury.

THE ISLE OF WIGHT BEE-DISEASE.

[6731.] A few weeks ago, in conversation with Mr. E. H. Taylor, Welwyn, he showed me some alarming letters which he had received from bee-keepers in the Isle of Wight, and suggested that I should make a tour of the island, and place before B.B.J. readers and all who are interested an accurate account of what I saw and learned.

I therefore rode down from Croydon on my bicycle, and spent three days on the island from early morn till late at night in interviewing bee-keepers, looking at affected stocks, viewing deserted and desolate apiaries, and succeeded in travelling nearly all over the island.

Among over thirty bee-keepers interviewed, who three years ago possessed an aggregate of 326 hives of bees, only twenty-nine of their stocks were alive, and fourteen of these are not expected to survive long. Of the bee-keepers mentioned, fourteen have lost all their stocks, apiaries formerly containing ten to twenty hives ("pots" the islanders call them) being absolutely

deserted. My first impression was that the devastation seen had been caused through carelessness or inexperience, but I learned that many of the sufferers were successful and experienced bee-keepers. The Rev. Leslie Morris, Brook, who has lost twenty-eight stocks, has kept bees with success for thirty years. The Rev. John Vicars, Colbourne, who comes of a family of bee-keepers, has lost all his sixteen stocks. The Misses Gibson, Porchfield, who were prize-winners at honey shows in the island last year, lost the whole of their fine apiary of twenty-three colonies, comprising some of the best strains of bees in the kingdom. Mr. J. W. Cooper, Shanklin, whose apiary is a model of cleanliness, and who imported three swarms last year from the mainland to remedy losses, has only three colonies left. Mr. H. M. Cooper, Thorley, local hon. secretary of the Hants and Isle of Wight Bee-keepers' Association, has lost fifty-seven stocks, and although he imported three swarms from the mainland, he now possesses but five stocks, two of which are already affected.

Mr. Twyman, of Newbridge (a skeppist bee-keeper for forty years), to quote his own language, says: "Soon after the bees swarmed last summer I found them crawling in thousands all over the place, and before I realised what had happened my fourteen pots of bees were dead!"

The Hants Bee-keepers' Association—the hon. secretary of which is Mr. E. H. Bellairs, Christchurch—have at length realised the importance of this bee-scourge, for in the annual report just issued they remark: "Twenty-five years' acquaintance with bees, bee-men, and bee-life has not revealed anything so deadly and mysterious as this same so-called 'bee-paralysis.' To the bee-expert it is as terror-inspiring as anthrax to the cattleman, and should it spread over England, as it has done over the Isle of Wight, there will be no need for bee associations."

I also learned that the services of the Board of Agriculture have been approached on the question, and that a representative of the Board was commissioned to investigate and report. This gentleman made a tour of the island several weeks ago, but has not yet issued his suggestions.

It appears that in the summer of 1904 the first symptoms of this malady were noticed in the south of the island, at Brook, Brightstone, Wroxall, and Shanklin, but it was not until last year that it spread to the centre and north of the island. Some ascribe it to several colonies imported from France or Switzerland about four years ago.

With regard to the symptoms, Mr. A. Wells, Newport, told me that after swarms had issued from two of his hives in June last year the ground in front of the hives was covered with bees, which crawled about in thousands and died on the ground. The stocks then died off gradually (the strongest going wrong first) till near Christmas, when the whole were dead. The curious thing about it is that the strongest stocks went wrong first.

These affected bees appear unable to fly, and when examined and dissected the intestines are found to be filled with an excess of yellow matter similar to dysentery, which they cannot evacuate, being unable to rise on the wing. If a person happens to be stung by an affected bee, this yellow substance is pulled away with the sting, and when the swelling has subsided the flesh where stung is stained yellow, as in yellow jaundice.

It is evident that this excess of yellow, which even affects the colour of the sting, represents this disease, which no doubt is highly infectious, and when aggravated by warm weather is especially destructive to aged bees worn out with work.

The island bee-keepers consider that the brood is not affected, but as far as my observation went I found distinct cases of yellow colour in the brood of strong stocks which had just swarmed. In one case at Arreton the hive, recently brought from the Bembridge district (supposed to be immune), was crammed with bees, and in another case of a last year's swarm from Hants (another strong stock), the bees had just begun to crawl in the manner described. The islanders are at their wits' end for remedies.

On the other hand, two instances of stray swarms taking possession of hives where the bees had perished were reported to be doing so well that they both had swarmed; but in one case I learned that they were just beginning to fail like the rest. With the introductions Mr. Taylor gave me, my visit was expected, and I received a most cordial welcome, and I am sure the sympathies of all bee-keepers go out to the islanders in their exceptional disaster.—JOHN SILVER, Croydon Grove, Croydon, May 25.

[Our correspondent's interesting communication has been fully referred to in our leader on first page of this issue.—EDS.]

EXAMS. FOR B.B.K.A. CERTIFICATES

[6732.] I should be obliged if you will, through the medium of the B.B.J., allow me to bring to the notice of the Council of the B.B.K.A. a feeling expressed by some of the candidates who, along with myself, attended the examination held in London on Thursday, May 16, with regard to the working of these examinations. It was thought that some relief from the strain connected with the task might be given to the candidates, without

in any way interfering with the high-class work expected. I therefore ask:—Could it not be arranged that in future the paper work should be taken in the various centres, as with the second-class examinations, and that only those candidates who are successful in this section of the examination should be called upon to attend in London for the final stage? Again, a candidate having passed in Sections A and B, and thereby shown his or her knowledge of the subject, why should it be necessary to have these portions repeated on entering for re-examination? It means to many considerable expense and loss of time, as some, owing to living at a distance, must either travel up to London the day before, or remain in town and travel home on the following day. To say the least, those adopting the latter plan are hardly up to the mark for lecturing after writing two papers (each occupying two and a half hours), with an interval of half an hour. It may of course be said that if they choose to travel all night they have only themselves to blame, but I would simply reply that it is not everyone who can spare the time. And when, having satisfied the examiners in the paper work, fails in the impromptu lecture, it seems hard lines to have to again be compelled to go through similar work another year. Another suggestion made among the candidates was that the subject for the lecture should be written in five different forms and notified to the candidates previous to the examination in order to give them a chance of preparing for the task, instead (as is done now) of handing them the subject a few minutes before they are called upon to lecture before the members of the Council. It is quite a different matter to have a subject sprung upon you, and to let one have a quiet quarter or half hour's thought on the subject before being called upon to speak before so critical an audience. I have taken this early opportunity of giving my views on the subject, so that others may, if you will permit it, give their opinions before the results of the recent examination are made known.—R. H. Coltman, Secretary Derbyshire B.K.A.

[We hope to make some reference to the above in next issue.—Eds.]

SUPERING IN TIME.

[6733.] It may interest you to hear that I followed your advice about a fortnight ago, and put a second super on my hive. I now find that the first is full of capped honey—all but the two outside frames, and they are nearly completed. If warm weather sets in, I shall put on a third super. All my hives are very full of bees, and we have already hived two swarms. I am doing my utmost to get hives, &c., ready for the other swarms which we are sure to have when the weather is favourable.

Last autumn, the end of our second year in bee-keeping, we had eleven hives. One became queenless, but survived the winter, and is now awaiting our next swarm. Another hive was robbed out, and when I opened it this spring it showed me the saddest picture I have had of bee-life—all the combs were empty, while about fifty bees feebly crawled about the hive. As there was no offensive smell observable, I concluded that robbing and starvation had destroyed the colony, and our expert, who has seen the combs, expressed the same opinion. Make whatever use you please of this letter; but, having kindly given me advice, I think it my duty to tell you the results.—J. B. C., Loughboro'.

ROSS-SHIRE NOTES.

CURING THE SWARMING FEVER.

[6734.] The past month has been unfavourable—much like May, 1906, with this difference, that the same low temperature was this time unaccompanied by rains, bitter easterly winds or "northers" from our snowy mountains characterising the first month of summer. June is being ushered in with a hurricane of wind and rain, while fresh-fallen snow is plainly visible on the surrounding hills. Vegetation is well advanced, however, white clover already coming into blossom; and the bees—well, they are all right, although favoured with only four working days out of the thirty-one.

Some of my stocks had twelve or more standard frames of brood a week ago, and achieved this result without any feeding or "management" on my part.

Swarming Time.—There is room for some latitude in the intelligent management of swarms and swarmed stocks. When increasing, the brood-nest of the earliest swarm should be split up into two-frame nuclei, with young queens, and as later swarms come off, their brood-combs can be distributed among the new colonies. I have found this an excellent way of making profitable increase.

Where increase is *not* desired, and no spare hives are available, unwished-for swarms are not easily dealt with. Personally, I cannot afford to keep a lot of empty hives awaiting chance tenants, and know just how it feels to have swarms coming off regardless of their owner being without homes to shelter them. Necessity, the mother of invention, led me to devise a simple and effective method that works admirably. Nothing is required beyond a few extra brood-boxes contain-

ing frames fitted with "starters." Directly the swarm is secured, substitute a box of eight empty frames for its brood-nest. Give it two frames of brood, replace section-racks, return swarm and along with it every bee from the removed portion. The latter is placed bodily, with excluder between, on top of any hive being worked for extracted honey. A week later examine the swarm, removing full supers, also any frames containing drone-comb, or those only partially worked out; these latter can be given to nuclei. Leave none but built-out comb filled with eggs or larvæ, and move the lot to each side, leaving centre open. From the hive they were placed on take a selection of the original frames—combs crammed with brood, now mostly sealed over. Put these right down in centre of the awaiting hive, allowing eleven frames in all. Give more supers, and note results.

You save the expense of superfluous hives, you cure the swarming fever effectually, and, finally, you secure the best possible results, such as consolidated work-eager colonies always give.—J. M. Ellis. Ussie Valley, May 31.

FIXING FOUNDATION IN FRAMES.

[6735.] Will you permit me to draw the attention of B.B.J. readers, especially beginners, to a very simple device for inserting foundation in frames with a saw-cut, which I think superior to the one advised in the "Guide Book"? Take a piece of inch board about 9 in. by 4½ in., and drive two 1½-in. nails in the centre lengthways, ¼ in. apart, so that the points come out about ½ in. Place the frame with the nails in the saw-cut, and bring it at right-angles to the board, when the sheet of foundation can be easily inserted, and will come level with the board. Give the frame a half-turn back, keeping a finger under at each end to prevent the foundation slipping down too far, and lift off. As I cannot draw very well, I send a small block to show what I mean. Name &c., enclosed for reference.—F. J. H., Cranleigh, May 9.

[The above is a very good plan of inserting foundation in frames with top-bars having a saw-kerf. It is, however, not new—several appliance makers stock an appliance almost exactly similar to that described.—Eds.]

FOREIGN RACES.

[6736.] So far as regards my personal opinion on foreign races, I have nothing to say against pure-bred bees of any race. It is the crosses that are objectionable to me, and, seeing they cannot be avoided if alien blood be introduced, I advise the bee-keepers of this country to stick to the native race, just as I should advise the Italians to avoid introducing our bees amongst theirs. It is a world-wide calamity when any distinctive natural species is utterly lost. Nature took ages to evolve these distinct types.

Then with regard to balling of queens. A correspondent has been good enough to say that if on opening the hives the quilt is gently turned over, and a thin stream of cool syrup be dropped on each seam of bees as they are exposed, balling will be prevented. He adds that it is some years since he had a queen balled, having done away with foreign blood. In my own case I find the risk exists almost entirely in the early part of the season—say before May 15. I lost only one this season, as I deferred examination until May. This one was lost before May without much cause, as already stated.—W. J. Farmer, Redruth.

A BRAVE LADY.

A SWARM SETTLING ON HER FACE.

[6737.] Whilst Miss Richards, of Mabe, Cornwall, was watching her bees, a swarm suddenly settled on her face and neck. Fortunately, she had courage enough to allow them to remain undisturbed, and eventually the bees were successfully drawn off and hived, without having caused the slightest injury to Miss Richards. I thought an incident so unusual and so illustrative of the lady's courage would be worth recording in the B.B.J.—S. Tonkin, Truro, June 3.

QUEEN-MATING IN CONFINEMENT.

[6738.] No doubt many of your readers will have been astonished to read the statement of "F. W. S." (6709, page 195) in B.B.J. of May 16 that he has evidence of queens having mated in the hive, the only conditions being that the drones should be of another stock and temporary escape prevented. This is entirely opposed to the preconceived theories of many writers, and if workable might lead to a revolution in the art of queen-rearing. However, it ought not to be difficult to prove with bees of different colours. I find there is no mistaking the progeny from a yellow queen and the English bee.

Here we have a new vocation for the "useless" drone, and a great facility for bee-keepers wishing to improve their stocks with fresh blood. Drones can be more easily bred than queens, are not nearly so expensive to buy or so troublesome to introduce, and mating could thus be brought under complete control even in over bee-populated districts. Everyone who is interested in apiculture should be

grateful to your correspondent for his communication, and I have no doubt many will try the experiment. May we hope they will give the result of their experience to your readers!

O that someone would introduce the *A. melipona* from South America, and try a few experiments with it! If the virtues of this bee for gathering honey can be compared to its virtues of non-stinging, what a gay time we should have who are amateurs!—J. P., Polperro, June 3.

VAGARIES OF BEES.

BALLING QUEENS.

[6739.] When taking advantage of the sunny weather about Easter to make the usual spring examination of my bees, I was astonished to find that seven of my stocks were queenless, especially when I looked up their record in my bee-diary, and noted that they were packed up for winter at the end of September with 30 lb. of stores, a young queen, and an abundance of brood each! Three of these had a little brood, the others had none, but some torn-open queen-cells. They have not reared themselves fresh queens and have had to be united to other stocks, and I am quite at a loss to know what can have become of these seven young fertile queens. I have an opinion that they went out for an airing in the early spring and somehow have been killed, because I remember that during some sunny days in February I noticed the bees flying much in the excited manner they have when they are swarming.

As to balling (page 203). I had several queens balled and thrown out two years ago, just after my spring examination. This I could never account for, as I had handled the frames very gently, and used scarcely any smoke. A man may have, say, fifty colonies packed up for winter, well provided with stores, and with young queens. By the following May ten possibly will be defunct, fifteen will be very strong indeed, fifteen fairly good, and ten quite weak. Why should this be, seeing that all went into winter quarters under exactly equal conditions? And why is it that skeps shall swarm, as some did in this district on Sunday, May 12, last, whilst others of equal weight and same age of queens will not swarm until possibly June 15 next? I confess all these things puzzle and disappoint a bee-enthusiast! With regard to the "Alexander" method (6726, page 214), I have adopted this plan for many years (see B.B.J., page 272, July 2, 1906). I usually let the top-chamber remain to be filled with honey after the brood hatches, and I never use shallow frames at all, because I consider that standard frames of comb are so much more useful for all purposes. In a district where foul brood is known to exist the brood-combs may thus be renewed every year. A rack or racks of sections may be worked on the top-chamber, so that both comb and extracted honey may be secured off the same stock, and ten standard combs are available at the end of the season—(1) for driven bees: (2) for using in a similar manner the next year: or (3) for melting into wax. I exhibited a hive at the Derby "Royal" with its double, rack of sections, telescopic lift, &c., in order to illustrate this principle; but it did not attract much attention owing perhaps to its amateurish make as compared with the beautiful hives shown by the professionals. Nevertheless, I am convinced that this type of hive and method of working it are the very best for both classes of honey, for increase, as also for prevention of swarming, and I would not go back to any other sort of hive again. Its value in an out-apiary is great, because the risk of losing swarms is done away with. If increase is desired, as explained by "Medicus," it seems absolutely necessary to have a laying queen to introduce, otherwise much valuable time is lost.—EXPERT, Cheltenham, June 3.

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS

By D. M. Macdonald, Banff.

A Question of Factors.—Which factor in bee-keeping bulks most in securing success? Opinions certainly differ here. In a late issue of the *Review* we read: "Set it down in big letters, read it over and over again, it is the *bee-keeper* and not the hive that wins success." The *American Bee Journal*, page 299, reads: "I tell you the *location* and management have more to do with the yield of honey than the kind of hive used." Another writer sets *management* first: "To-day we must be able at any time through the season to tell the exact condition of any colony if we would be in any way successful." Mr. Dadant would hold that the deep *hive* is the chief factor tending to a profitable carrying out of bee-keeping, while advocates of shallow or divisible hives as stoutly claim that their style is the best. Certain other special pleaders would emphatically maintain that success centres round the *queen*, and I am pretty positive quite a large number would assign a chief seat to the *bees*. All these six factors combined secure the product which attains for us the produce that makes the industry a paying pursuit, but really I would not be prepared to assign each of them its relative position. At times the one, and at times the other, may take

precedence, but I prefer to look on them as links in a chain.

Excluders: Pro and Con.—At the recent American Convention the question of excluder-zinc was ably dealt with by Mr. Ed. Townsend, an extensive Michigan bee-keeper, who advocated its discontinuance. "Put upper stories always on top. By placing them so we have been able to keep down swarming, and have an extracting department practically free from brood at extracting-time. We have used excluders extensively for several years, and find that about every third season we have excessive swarming when excluders are used; and, as we get practically the same results without them, with the above management, we are discontinuing their use." The consensus of opinion, however, seemed to point to the retention of these, but a number agreed that they were a necessary evil, that they certainly were a hindrance to the bees—a "honey-excluder," as one put it—and an agent for aiding swarming. Experiments should be made by our extracting bee-keepers to test Mr. Townsend's plan.

Blacks.—It seems a good word can be said for these, even in America, both North and South. Mr. School, in *A.B.J.*, writes: "It is time we were finding out their merits if they have any, as they certainly have. I say that they have a place in apiculture that the Italian can never fill. In the production of comb-honey they cannot be excelled. I operate blacks, Italians, and Carniolans for honey, and give credit where it is due." Mr. Byer, a leading Canadian bee-keeper and an able writer on apiculture, says: "I have an idea that quite a large number of American and Canadian bee-keepers will be inclined to agree with the views relative to the merits of blacks. By far the largest yields in three successive seasons in one of my apiaries have been from a colony of German bees, as pure, judging from general characteristics, as it is possible to get them, and yet in this yard there has been a number of Italians bred from the most *aristocratic* blood in America." Thanks, both! It is facts we want, and the fruits of experience.

Are We Improving our Queens? — I acknowledge, in reverting to this subject, I do it with some awe, but so much hangs on the queen that it deserves to be kept prominently before the craft. At the Convention Mr. Coggshall said: "My bees have been crosser by every new blood that I have introduced. I have had bees from different queen-breeders, and, I take it, no better blood." Mr. Parsons held "that it was an unknown quantity when you introduced a new race or new blood. A cross is almost invariably ill-natured and hard to handle." Mr. Kimper's conclusion was: "I don't believe I have made an advancement as to introducing a gentle strain of bees." Mr. Reed (Texas) gave as his experience: "Texas breeders are not breeding as gentle a race as they did a few years ago." From Illinois Mr. Smith reported that "you never saw bees crosser than they were this year." Dr. Bohrer, contrasting now and forty years ago, could handle them without any protection at the earlier period, but now face and hands have to be well protected. Messrs. Fitton, Atchley, and Chambers held that there had been improvements, but even they condemned the mixing up of Cyprian blood.

Queries and Replies.

[3521.] *Transferring Bees.*—As a beginner, may I ask, through the B.B.J., your advice on the following points? On April 17 I got a stock of bees in a skep, and put them on six standard frames in a modern frame-hive, gradually increasing the frames to the full number the hive accommodates. By May 16 the brood-chamber was transferred below, and I put on the excluder. On May 30 (a fine warm day), seeing the bees were clustering on all the frames, and were thick round the hive-entrance, I put a shallow-frame super above the excluder, with quilts and skep on top of that. Bearing in mind that I do not want the bees to swarm, I ask: 1. Did I do right, or ought I to have waited till the brood in the skep was hatched out, and adopted other means to prevent swarming? 2. When the brood in skep has hatched out, and I want to remove it, how am I to remove the bees? 3. Is there a Sussex Bee-keepers' Association? I have not examined the bees since I put the super on, as it has been wet ever since.—D. B., Lewes, June 2.

REPLY.—1. Yes; quite right, under all the circumstances. 2. If the skep is free from brood it may be removed the first day on which the bees are flying freely. If set down 20 yards from the hive, bottom upwards, the bees will soon leave it and return to the parent hive.

[3522.] *Using Queen-excluders.*—Is it at all material whether the zinc excluders are put over the frames in brood-chamber with perforations across the spaces between the frames or otherwise? The excluder supplied with a hive I have recently purchased only fits when put with the slots across the frames.—SALOP, May 30.

REPLY.—The excluder sent you is quite right; the slots should go across, not alongside the top bars of frames.

[3523.] *Bees Casting Out Drones in May.*—Being a novice in the peculiar ways of bees, and having to-day noticed what was, to my mind, an unusual occurrence, I am induced to apply to what may be termed the "Apiarist's Encyclopædia," *i.e.*, yourself, for an explanation of the above. The weather here to-day has been very wet, and the bees in one of the hives have been exceptionally busy in turning out drones of various ages, some even in the imago stage. I should be glad to know if this is unusual, and, if so, what does it indicate? I may say that one of my stocks threw out a very large swarm on May 22. Wishing your useful journal every success, I send name, and sign—G. R., Carmarthen, May 30.

REPLY.—There is nothing unusual in drones—in various stages of development—being turned out

when a spell of cold weather has stopped the income for some days. No further evil will follow, and the loss of drones will do no harm.

[3524.] *Spacing Frames Fitted with "Starters" Only.*—Will you kindly reply to the following queries? As I hive my swarms on starters, I usually space the frames at the narrow distance, in order to prevent drone-comb being built. This being so, I ask: 1. Can the frames be spaced the usual, or normal, distance apart as soon as the combs are built out? 2. I bought some skeps a few days ago, and when purchased the bees were hanging out in large clusters; but upon bringing them home (a journey of ten miles by road), they have not shown any signs of swarming since their change of location, although the weather has been fine and sunny. Do you think the moving will delay swarming for any length of time? I may say they had a good shaking up on the journey, one lot having two combs broken down on arrival. 3. Do bees gather anything from the bloom of field peas or potatoes, as we have many scores of these round here? Name sent for reference.—NOVICE, Kent.

REPLY.—1. The frames should be spaced at normal distance without delay. 2. No doubt the moving has caused the bees to cluster closer once they are on their new stands; but all will go on right now. 3. Practically nothing from either.

Bee Shows to Come.

June 25 to 29, at Lincoln (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Entries closed.

July 17 and 18, at Burton-on-Trent.—Honey Show of the Staffordshire B.K.A. Special prizes, including five Open Classes. Prizes, 20s., 10s., and 5s. Single 1 lb. Jar and Section (entry free). Schedules from Joseph Tinsley, Expert, Chebsey, near Stafford. **Entries close June 22.**

July 24 and 25, at Cardiff.—Annual Show of the Glamorgan B.K.A., in connection with that of the Cardiff and County Horticultural Society. Honey, Wax, Appliances, &c. Classes for members, novices. Five open classes, with prizes for sections and bee appliances, 40s. and 20s. Entry fee for one or more of the open classes to non-members, 2s. 6d. Schedules from Wm. Richards, Hon. Secretary, The Red House, Gabalfa, Cardiff. **Entries close July 20.**

July 31, at Henbury, near Bristol.—Annual show of Honey and Wax of the Henbury District Bee-keeper's Association, in connection with Horticultural Society's Exhibition. Seven open (three free) classes, good prizes. Bee Demonstrations. Schedules from Hon. Sec., F. E. May, "Bellasis," Stoke Park, Westbury-on-Trym, Bristol. **Entries close July 24.**

August 5 (Bank Holiday).—Annual Honey Show of North Norfolk B.K.A., in connection with the Melton Constable Horticultural Association. Schedules from C. J. Cooke, Edgefield, Melton Constable. **Entries close July 27.**

August 8 to 10, at Barnsley.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. Schedules and form of entry from John Maughan, Secretary, Blake-street, York. **Entries close June 29.**

August 21, at Lancaster.—Show of Honey, &c., in connection with the Lancaster Agricultural Society's Annual Show. Open Classes for Extracted and Comb Honey, also Beeswax and Produce. Challenge Cup value £5 5s., also six silver and bronze Medals, and other Specials. Schedules from Thos. Armitstead and Son, Auctioneers, Lancaster. **Entries close August 7.**

August 21, at Radstock.—Annual Show of the Somersetshire B.K.A., in connection with the Radstock Horticultural Association. Seven open and two free classes; good prizes. Schedules from Herbert J. Moore (Show Secretary), Foxcote, Radstock. **Entries close August 14.**

August 28, at Chester (Cheshire Agricultural Society's Show).—Bee and Honey Department, under management of the C.B.K.A. Open classes for Hives, Sections, and Extracted Honey. Increased prizes. Members' classes, District class. Special prizes offered by Chester Tradesmen's Association. Schedules from T. A. Beckett, St. Werburgh's-chambers, Chester. **Entries close August 7.** Post entries at double fees to **August 14.**

Notices to Correspondents.

W. H. S. V. (Berkhamsted).—*Bees Visiting Drains for Water.*—No harm to human beings will follow the use of honey stored by bees that visit unsavoury places for water. They usually frequent such places because of the saline moisture obtainable. Bearing in mind that bees are as fond of salt as most other creatures, we need only say that they are less particular than we are where the saline properties of the water come from.

W. M. (Buxton).—*Bees Damaged in Transit.*—Your best plan will be to fix up such of the frames as have fairly straight combs in them, and insert a full sheet of foundation between each of such combs. Then, as time goes on, gradually insert new frames of foundation to fill up the hive, and later on, or when convenient, remove the old combs to the sides of body-box for final removal as new combs are built out.

QUEEN BEE (Shaftesbury).—*Hiving Difficulties.*—With your swarm kept so many days in the hiving-skep before there is a likelihood of the frame-hive being available, we advise you to leave the bees in the skep till the latter is nearly filled with comb. Then set the skep above the frame-hive, as directed in "Guide Book," and allow the bees to transfer the brood-nest below. By so doing the skep-combs will be more rapidly completed, and after the queen has taken possession of the frame-hive the skep can remain for honey-storing and removal at end of season as a super for extracting.

M. G. LEWIS (Kent).—*Transferring Bees.*—It is evident, from details given, that the skep was not sufficiently strong in bees when placed above the frame-hive, or the bees would have taken possession of the latter long before the date named. It should always be borne in mind that the "Guide Book" makes it clear that a "not very strong stock," as you term it, is not ready for transferring itself to the frame-hive, and to begin too soon defers the transference of brood-nest below longer than if placed in position later on, or when egg-room was really needed by the queen.

DOUBTFUL (Jersey).—Undeveloped bees sent appear to have suffered from insufficient warmth while hatching. Cold usually causes aborted wings and imperfect development, as in your case. We see no sign of disease about the dead bees.

Suspected Combs.

BEEDOM (Peterboro').—Sample is not a good one to judge from; the few eggs and very young larvæ (three or four only) show the usual appearance of chilled brood. One cell (crushed) contained a suspicious-looking larva, but we should have a proper sample for diagnosing from, if possible.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

QUEENS, Blacks, Carniolans, Golden-all-overs, and Italians, by return post; every Queen guaranteed satisfactory; Virgins of above ready June 1; book now. Descriptive list free.—"CRUADH" APIARIES, Ballyvarra, co. Limerick. z 11

Special Prepaid Advertisements.—*Continued.*

BEE-KEEPERS' NECESSITIES.—British Weed Foundation, Brood, 2s. 5d. lb.; Super, 2s. 9d.; 5 lb. 1d. lb. off, 10 lb. 2d., postage 4d. first lb., 1d. lb. after; Hives, 7s. 6d., 18 by 16, for 10 Standard Frames, double walled back and front, 9 in. lift, telescope roof and porch; also Hives, ditto, 18 by 18, with dummy, sliding entrance, 9s. 6d.; self-adjusting Frames, 1s. 2d. doz., 8s. 100; "W.B.C." ends, 2s. 6d. gross, post. 4d.; Split-top Sections, 2s. 9d. 100; Section Racks, 2s. 6d.; Shallow Frame Crates, complete, 3s. Cash with order.—COX, manufacturer, Smallbrook-street, Birmingham. y 28

EXCHANGE FOR BEES (no Hives), 5 Brown Leghorn Pullets and Cockerel. Cost £3; sell 35s.—DAWES, 4, Eltham-road, Lee, S.E. z 63

SWARMS FOR SALE, 10s. and 12s., supplied in rotation.—BRADSHAW, Allerston, Pickering. z 58

31ST YEAR.—Three Frame "Nuclei," Bees, Brood, and prolific Queen, 12s. 6d.; case, 3s., or returned carriage paid.—ALSFORD, Expert, Haydon, Sherborne. z 73

GUINEA EXTRACTOR and 2 Ripeners, in good working order, 15s.—BENNETT, Heacham. z 71

STRONG NATURAL SWARMS, guaranteed healthy, 12s. 6d., packed, safe delivery.—CADMAN, Codsallwood, Wolverhampton. z 70

FOR SALE, Extracted Honey, in 14 lb. tins, 5d. and 5½d. lb.; sample, 2d.—ARTHUR ADCOCK, Meldreth, Cambs. z 69

FOR SALE, STRONG "CHAPMAN HONEY PLANTS," 8d. doz., post free.—T. NASH, New Hedges, Tenby. z 67

TAYLOR'S EXTRACTOR, cost 11s. 6d., in good condition, free on rail, 5s.—F. SANKEY, 2, Marine-villas, Milford Haven. z 66

CANNOT BOOK ANY MORE SWARMS till after June 15th.—S. BAILEY, Itchingfield, Horsham. z 62

STRONG HONEY PLANTS, 6d. per doz.—B., Clevedon, Fairfield-road, Winchester. z 65

GOOD NATURAL SWARMS FOR SALE, 10s. each.—H. HOLLEWORTH, New Inn Farm, Widmerpool, Notts. z 61

GOOD SWARMS.—A few offered, 10s. 6d. each, on rail; boxes to be returned.—HILLS, Westbank Apiary, Alton, Hants. z 58

QUEENS, few choice 1906, 3s. 6d. per return.—TAYLOR, "Hollyhurst," Boldmere, near Birmingham. z 72

FOR SALE, 8 Hives of Bees, Bar Frame Hives.—JOHN BOWES, Appleton-le-Street, Malton. z 68

WANTED, CERTIFICATED EXPERT, at once, for fortnight, for Kirkcudbrightshire, £6 for period; references.—Apply, AIRD, Hardgate, Dalbeattie, N.B. z 60

2 STOCKS BEES, in "W.B.C." Hives, and 5 empty Hives, the lot £5; 2 "W.B.C." Section Racks, 7s.—J. BROOKFIELD, 108, Stamford-road, Birkdale, Southport. z 59

EXCHANGE PURE BLUE PERSIAN CAT, neuter, brother sold for 2 guineas, for Bees.—58, Rugby-road, Leamington. z 12

A FEW SECTIONS OF HONEY, glazed, good quality, at 7s. 6d. per doz., on rail.—W. WOODLEY, Beedon, Newbury.

OWNER GOING ABROAD.—6 Healthy Stocks, 4 Empty Hives, Bar Frames, Racks, Lifts, Travelling Crate, Geared Extractor, equal new, £7, packed.—MOORE, Thrupp, Stroud. z 64

EXTRACTOR, EMPTY HIVE and other appliances for sale.—Write, 13, The Circus, Greenwich. z 41

Special Prepaid Advertisements.—*Continued.*

"DOOLITTLE" STRAIN GOLDEN QUEENS, Virgins 1s. 6d., Fertiles 5s.; all orders executed in rotation; book now, stating date wanted. Customer writes: "Your Queens head the best colonies I have."—D. TAYLOR, Ilminster. z 42

SECTIONS WANTED, in any quantity (glazed). State lowest price delivered, and about when ready.—HONIELADE CO., 48, Bermondsey-street, London, S.E.

PROTECT YOUR FRUIT.—Tanned Garden Netting, only best quality supplied. Order promptly, as nets are scarce and must be dearer. 25 yds. by 8 yds., 50 yds. by 4 yds., and 100 yds. by 2 yds., 9s. each; add ten per cent. for other sizes.—L. WREN AND SON, 139, High-street, Lowestoft. y 39

TILLEY'S PATENT ("WON'T LEAK") SECTIONS, 2 lb. size, 6d., post paid; the "Tilley Damp-proof" Hives, painting unnecessary; also the "Tilley" metal ends, fit any size bars. Particulars post free.—M. H. TILLEY, Bee Farm, Dorchester. z 21

SWARMS IN JUNE, price 12s. 6d. each.—THOMSON AND SONS, The Nurseries, Wimbledon. z 13

HEALTHY MAY AND JUNE SWARMS, 10s. 6d.—G. TURL, Whitford, Axminster, Devon. y 87

30TH SEASON.—Stocks, Swarms, Nuclei, and Queens, imported Italian Queens, 6s. 6d.; British, 4s. 6d.—E. WOODHAM, Clavering, Newport, Essex.

HEALTHY SWARMS, 11s. 6d., best strain; inspection invited of my 45 Stocks; Sections, 9s. per doz., guaranteed safe arrival. Deposit.—P. HANSON, Gardener and Bee Expert, Apiary, 3, Gladstone-cottages, Norwood Green, Southall, Middlesex. z 55

PRIME NATURAL SWARMS FOR SALE this season as usual; orders now booked, 12s. 6d. and 15s. each — PERCY WILKINS, Letcombe Regis, Wantage. z 22

HEALTHY NATURAL SWARMS, 10s. 6d. and 12s. 6d.; 3-Frame Nuclei, 10s. 6d.; Stocks, on wired combs, from 20s. each.—R. CARTER, Chartridge Green Farm, Chesham, Bucks. z 50

GILLIES MARVELLOUS CONTROL-CLOTH, in vest pocket case, with clearly printed instructions for manipulation of Bees; two delivered anywhere, 7d. stamps.—43, Dawson-street, Dublin. Agents wanted. y 61

3 NEW "W. B. C." HIVES, 12s. 6d. each.—PRITCHARD, Wainalong-road, Salisbury. y 92

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester.

FOUNDATION-STRETCHING PREVENTED by simple device. Sample set, with directions, P.O. 1s. 1d.—W. PALMER, 174, Curzon-street, Netherfield, Nottingham. y 86

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

WANTED, for Scientific purposes, QUEEN BEES and WORKER HORNETS. Will brother bee-keepers oblige?—HERROD, Apiary, Luton.

NATURAL SWARMS of my hardy prolific strain English Bees, not less than 4 lb., 12s. 6d.; 5 lb., 15s.; 6 lb., 18s.; packages to be returned, guaranteed healthy and safe arrival. Orders executed in rotation.—WHITING, Apiaries, Hundon, Clare, Suffolk. y 89

Editorial, Notices, &c.

THE ROYAL COUNTIES SHOW.

BEES, HONEY, AND APPLIANCES AT MAIDENHEAD.

The above show was held on May 28 to 31, and, notwithstanding adverse weather conditions, was very successful. Owing to circumstances outside the control of the Association, the date of the exhibition was too early in the year for any hope of a good display in the honey section. The apicultural department was under the charge of the Berkshire B.K.A., and it was therefore very gratifying to find 35 ft. of staging filled with honey of good quality, including two handsome trophies. There were also two entries in the collection of Bee-appliances class, Messrs. Abbott Bros. and E. H. Taylor occupying 70 ft. of space with fine collections. The management of the honey section devolved on Mr. D. W. Bishop Ackerman, hon. sec. Berks B.K.A., the exhibits being staged by Mr. H. Edwards, assistant hon. sec., who also gave demonstrations and lectures with bees in a small enclosure outside the tent at intervals when the weather permitted.

On Thursday Royalty in the persons of H.R.H. the Duke of Connaught and H.R.H. Prince Christian visited the show, and the Duke, after an inspection of the honey tent, was pleased to express his admiration of the display.

Messrs. W. Herrod and W. G. Stoneham officiated as judges, and made the following awards:—

Class 1.—*Collection of Appliances.*—1st, Abbott Bros., Southall; 2nd, E. H. Taylor, Welwyn, Herts.

Class 2.—*Complete Frame-hive for General Use.*—1st, James Lee and Son, Highbury, London; 2nd, Abbott Bros.; h.c., Abbott Bros.

Class 3.—*Complete Inexpensive Hive, price not to exceed* 12*s.* 6*d.*—1st, Jas. Lee and Son; 2nd, C. Greenhill, Wimbledon.

Class 4.—*Honey Trophy.*—1st, James Pearman, Derby; 2nd, D. W. Bishop Ackerman, Reading.

Class 5.—*Twelve* 1-*lb. Sections.*—1st, James Pearman; 2nd, J. G. Nicholson, Langwathby; 3rd, W. Hooper Teed, Aston Clinton.

Class 6.—*Twelve* 1-*lb. Jars Light Extracted Honey.*—1st, Jas. Lee and Son; 2nd, C. Laywood, Market Rasen; 3rd, S. G. S. Leigh, Broughton; v.h.c., C. W. Dyer, Compton.

Class 7.—*Twelve* 1-*lb. Jars Medium or Dark Extracted Honey.*—1st, James Pearman; 2nd, S. G. S. Leigh; 3rd, A. Sandys, Drayton.

Class 8.—*Twelve* 1-*lb. Jars Granulated Honey.*—1st, Jas. Lee and Son; 2nd, James Pearman; 3rd, E. C. R. White, Newton Toney.

Class 9.—*Single* 1-*lb. Section.*—1st, W. Woodley, Beedon; 2nd, E. C. R. White.

Class 10.—*Single* 1-*lb. Jar Extracted Honey.*—1st, C. W. Dyer; 2nd, Miss Alice Allnutt, Wittenham; 3rd, W. J. Cook, Binbrook.

Class 11.—3 *lb. Beeswax.*—1st, E. C. R. White; 2nd, James Pearman; 3rd, A. Sandys; v.h.c., E. C. R. White.

Class 12.—*Practical Inventions.*—Three entries. No awards made (judges' remarks, "Not sufficient merit").

Class 13.—*Educational Exhibit.*—No exhibit staged.

Class 14.—*Unicomb Observatory Hive, Stocked.*—1st, C. W. Dyer; 2nd, Abbott Bros.

Class 15.—*Unmounted Photograph* (this class judged by Mr. Lewis, of Dann and Lewis, photographers, Reading).—1st, C. W. Dyer; 2nd, H. Edwards; 3rd, Miss Scott Walker, Slough.

Classes 16 to 19 inclusive cancelled.

MEMBERS' CLASSES.

Class 20.—*Six* 1-*lb. Sections.*—1st, W. Woodley; 2nd, Mrs. E. Sopp, Crowmarsh; 3rd, F. Chapman, Goring Heath.

Class 21.—*Six* 1-*lb. Jars Light Extracted Honey.*—1st, C. J. Johnson, Caversham; 2nd, F. Chapman; 3rd, Geo. Head, Winkfield; v.h.c., F. B. Parfitt, J.P., Caversham; h.c., D. W. Bishop Ackerman.

Class 22.—*Six* 1-*lb. Jars Medium or Dark Extracted Honey.*—1st, Miss Alice Allnutt; 2nd, F. Chapman; 3rd, Miss Scott Walker; v.h.c., Geo. Head.

Class 23.—*Six* 1-*lb. Jars Granulated Honey.*—1st, C. J. Johnson; 2nd, Geo. Head; 3rd, W. Woodley; v.h.c., F. Chapman and D. W. Bishop Ackerman.

Class 24.—*Beeswax*, 1 *lb.*—1st, Mrs. Towers, Slough; 2nd, G. W. Davies, Wallingford; 3rd, Geo. Head.—(*Communicated.*)

NOTTS BEE-KEEPERS' ASSOCIATION.

The summer meeting of this association was held on June 1 at Syston. The members and their friends travelled by train from Nottingham, and on arriving at Syston were met by Mr. W. P. Meadows, one of the largest makers of appliances used in connection with bee-keeping, who conducted them over his extensive works. The party then adjourned to the village hall, where they partook of tea. Amongst those present were Mr. W. S. Ellis (vice-president of the association) and Mrs. Ellis, Mr. G. Hayes (secretary) and Mrs. Hayes, Mr. and Mrs. A. G. Pugh (Beeston), Mr. and Mrs. P. Scattergood (Stapleford), Mr. and Mrs. T. N. Harrison (Carrington), Mr. and Mrs. Fidler

(Hucknall), Mr. and Mrs. Faulkner (Melton), Miss Brodhurst (Long Eaton), Messrs. G. Scattergood and White (Sandiacre), Messrs. Stoppard and Jacques (Nottingham), R. J. Turner (Radcliffe), J. Mann (Stragglethorpe), F. Burley (Nottingham), &c. The party were afterwards driven to the nurseries of Mr. James Wright, F.R.H.S., and to Abbey Park.—GEO. HAYES, Sec. Notts B.K.A.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

[6740.] May has come and gone, but May weather has been conspicuous by its absence. Just two days of bright sunshine and genial warmth came to show us what bees *could* do if they got the chance. All the other twenty-nine days were what we generally expect to have during a bleak March. Fruit-blossom appeared and disappeared unvisited by bees. Arabis, wallflower, willow, plane, hawthorn, and a number of other early flowers wasted their sweetness on the bleak air, because the rain rained every day, while the wind held a persistent grip of the cold North or as cold East. What progress could bees make under such trying circumstances? Verily the advance is rather discouraging. Yet there has been progress. And a few days of genial summer warmth will make us soon forget the ungenial past. To show the unseasonableness of the season, I made my "spring" overhaul on as late a date as June 7—thereby making a record for lateness. For many years I was eager to seize on the first fine day from mid-April to the end of that month, but experience taught me, sometimes by a rough lesson, that a too early pulling about of the brood-nest was highly injurious, and, consequently, for some years it has been postponed till May—I consider with more favourable results. Queen-balling at the earlier period is a more frequent result of untimely manipulation than many are aware.

Later.—Summer weather has come at last. Hurrah!

Cleanliness in the Apiary.—A learned doctor and a learned editor lately gave their separate ways of clearing off the stickiness of the fingers caused by handling frames or broken combs. One took up a handful of grass and rubbed the fingers clean. The other went one better, using a handful of sand or earth, and after cleaning with this proceeded with his manipulations. I don't give these as examples for our apiarists to imitate. I hope our readers know and practise a more excellent way. Nothing beats cold water, so some means of obtaining a supply in the apiary is advisable. When folding sections, handling foundation, wiring frames, and especially when dealing with surplus honey, the fingers must be kept rigidly clean. Supers now being taken from their winter quarters, dividers, even although wrapped up while lying aside, escape-boards, folding blocks, wiring-boards—everything, in fact, connected with bees, bee-hives, and bee-keeping should be thoroughly cleansed before being applied to anything going into the interior of a hive during the coming season. Avoid giving bees any article coated with dust, adorned with spiders' webs, or infested with eggs or larvæ of the wax-moth. Make certain all cloths and coverings on the hive are free from damp; all should be clean and smell sweet. All débris from floor-boards should be burned or buried; so should all foul pieces of comb. Cleanliness in the apiary is a cardinal virtue.

A Nameless Disease.—The Isle of Wight, to my mind, should form an ideal home for the honey-bee, but it appears from many sources of information that for a year or two it has not been a bee-paradise, or, if it is so naturally, yet the "trail of the serpent" is over it all. Speculating on the cause of this mysterious epidemic would be futile, and especially so as it has been under investigation by a specialist who could study the subject first-hand on the spot. I would very much like to see his report, and trust it may be published in our pages. As Mr. Imms, who is a member of the Zoological Department, has been conferring with Mr. Cooper, Dr. Q. C. Brown, and other local bee-keepers, and with Mr. A. H. Wykeham, the local representative of the Board of Agriculture, the fullest information should have been made available; but, in my opinion, an expert nominated by the Council of the B.B.K.A. had better have been called in. Some of the literature appearing on this subject is astonishing in its random wildness, and the guesses made as to the origin of this nameless disease show an amount of ingenuity worthy of a better cause. Fortunately, although seemingly widespread in the island, it has not yet extended to the mainland, and it is to be hoped it will be

cured or suppressed without spreading so far. Special care should be taken to see that no bees are transported to other parts of the country, and investigators should particularly take note of any odd sources of honey or pollen, or both.

Over-ventilation.—The vitality at times shown by bees under trying circumstances would lead us to infer that they would stand almost any amount of pure air, but I would accept this doctrine with very serious reservations. A runaway swarm last year was found in late November breeding, with a large stretch of comb and a fair quantity of honey. A bee-keeper experimenting on confining his bees in winter smothered nine-tenths of them. A handful survived, but among them was the queen. During a gale the skep was overturned, and the bees drenched during a whole night. But they survived, threw a swarm, and gave forty sections surplus. These are two extreme cases on one side. *Per contra*, take another two. A swarm reached me on the last day of May in a liberally-ventilated box. The bees, owing to the intense cold, were chilled and all but dead, showing scarcely any signs of vitality. Fortunately, I revived them, but I fear a novice would have lost the whole swarm. A bee-keeper by accident left his roof off, and in the morning his bees were dead. I record these two instances again as extreme cases. Not one of the four is directly a case of over-ventilation, yet they teach us that bees suffer from extremes, because we find that in the first case bees had dwindled from exposure, in the second they survived only through their owner's coddling care. Left to themselves, my swarm would have died undoubtedly in a short time, as did the bees exposed in the hive. Later I may apply this to hive-ventilation proper. —D. M. M., Banff.

WHO SPREADS FOUL BROOD?

[6741.] The cure of foul brood still continues to form a topic for discussion in the B.B.J., and no doubt the very able articles do much to help readers in getting rid of this terrible disease. At the same time it is unfortunate that so many bee-keepers are not readers of our paper, and do not realise how serious it is to the community at large.

When, a few years ago, I had an outbreak in my own apiary, although I always took—and still take—the utmost precautions, I commenced looking about me, wondering from what source my bees had brought the infection to my own hives. Being at this time appointed local secretary to my county association, it gave me a ready entrance to my neighbours' hives, and I soon found the kind friend (?) who had presented me with such an unwelcome visitor. The same old tale—the bees there because it is "nice to have bees," or "from custom," nobody understands anything about them, the bees die off—from starvation they say, really from disease—and the hive stands there, inviting every passing bee to help itself.

My experience shows that the "big people at the hall" and the gentry generally are the worst sinners; and why? Simply because they do not realise that they are doing anyone any harm. Their gardeners, as a rule, are either too busy to attend to the bees, know nothing about them, or are afraid of them. One gardener, whose master's bees I look after, has, I find, removed four very good bar-frame hives from a grand situation to an old-fashioned "bee-garden," which consists of several recesses in a thick wall, just large enough to admit the hive and one super, and the upper ones of which cannot be reached except by the aid of a ladder. To crown all, the trees are so thick and big all round that the place is in semi-darkness, and, even if the bees can do well, I foresee a warm time for someone manipulating the hives from the front. On being remonstrated with he remarked that "it must be a good place, seeing that it was built for bees, that the stones in the wall were nicely sculptured with figures of skeps and flying bees, and that he liked bees. They saved him such a lot of work in fertilising the peaches, &c." Very pretty place, no doubt, but who can fancy anything more ludicrous than to see bar-frame hives, made to stand in the open, stuck in openings in a wall, 6 ft. or 7 ft. from the ground? Such is the type of bee-keeper of which I complain, and I now find that to keep my own apiary healthy I have to look after six other people's! I have already this season burnt one hive and bees and treated three others—one each at four different houses. Now, cannot more be done in letting people in general know something about this terrible disease? Cannot our associations send out pamphlets broadcast through any agency—say through seedsmen's catalogues (these at any rate reach gentlemen and their gardeners, and should not be any great expense)? Local secretaries also might see leaflets appealing for support in stamping out the disease distributed in their district; and, again, articles in the local papers might help. At present the associations' leaflets and B.B.J. advice reach only those who are, at any rate, more or less efficient bee-keepers, or care for their bees, and who are acquainted with the awful nature of this scourge. Hoping some more vigorous steps may be taken, I sign myself—PROGRESSIVE, Warrington, May 31.

FOUL BROOD AND "REMEDIES."

[6742.] Dr. T. S. Elliot makes some remarks upon this subject in your issue of May 30 (6728, page 215), but as he appears to have misconstrued my own statements, I should like to refer to one or two points he brings forward.

It is not my own opinion, and I do not find that I have anywhere stated, that either the temperature of a living-room or the heat and moisture of the hive will "kill" the spores. On the contrary, I distinctly stated that no application whatever will directly kill the spores of foul brood while bees are in possession of the diseased combs; and I have elsewhere given it as my opinion that boiling may not destroy them, the time usually being too short to secure that end, whether by killing—or otherwise.

Dr. Elliot has failed to grasp my contention, which is that a more or less lengthened period of heat and moisture ensure germination of spores; that when diluted in warm water, or in honey when in the hive, the resulting bacilli (being abortive and having no natural element) immediately perish, more especially where a colony of great energy is in possession. Bacilli can only propagate—apparently can only exist—in a suitable medium. Take away such medium and there can be no return to spores.

Hive temperature is, of course, as your correspondent states, the most suitable for the development of the vegetative form, but that condition is disastrous only with the non-energetic colony; while, on the other hand, the active germination of the few spores which may escape the attention of the stock, having great vital force, soon ends in the subjection of the disease. Spores that have once germinated, like other seeds, reach a finality where there is no further soil to support the plant life; thus they perish as the result of abortive germination. There is no question of killing them as spores.

Dr. Elliot thinks the statement quoted from Mr. Burrill's experience—that spores and bacilli are disposed of sooner or later when diluted in water—is of no practical value. On the contrary, in my own opinion, it is one of the most valuable facts bearing on the treatment of the disease. But as Dr. Elliot is in error, to start with, as to the supposed suggestion that the spores may be "killed" by the process, that may account for the conclusion he has arrived at.

It is, however, an invaluable point gained that any suffering bee-keeper may know that any foul matter thrown out by the bees may not be a lurking source of danger. It may, perhaps, be dropped into the watering-place of the bees, and yet, being there diluted, may soon become less dangerous. Where falling on the surrounding ground the showers will soon dilute it, and the blessed sunlight will presently dispose of its deadly character; while immediately around the hive the owner may use a watering-pot with a rose, again diluting the stray stuff, with the addition of chloride of lime or other suitable destructive agent.

But he need not stop here; he will carry the process of diluting right into the hive, as I have previously shown, by saturating the hive sides and his quilts with strong Izal solution, and may have his combs filled solid with medicated syrup. It is not a question of taking six months, more or less, to dispose of the enemy when diluted, but it is the application of this principle in management which should aid the unlucky bee-keeper. I make no suggestion that the spores are directly killed by any of these processes; that they ultimately perish under such conditions there can be no doubt, where the temperature is sufficiently high to cause abortive germination. At about 60 deg., according to Mr. Burrill, the process was a slow one, as would be expected; but in the hive temperature of 95 deg., and especially in the direct rays of the sun, where diluted on the surface of the earth, the act must be hastened.

Dr. Elliot does not seem to understand that in my former articles I took a certain combination in due order. I first showed that bees could overcome the malady without assistance under favourable circumstances; and also that the bee-master could cure without applied remedies by judicious manipulation, solely that the average reader, when troubled with the bee-pest, would know that he has a good basis to work upon—a combination of favourable circumstances that must certainly help him to subdue the disease when including a suitable antiseptic solution, to be applied as I recommended. There can be no wavering or hesitation in these methods I offer the unfortunate ones, unless, indeed, such wavering occurs with those who fail to grasp the situation. The uninitiated are advised not to lose sight of the vast power of vital energy; while none are asked to attempt a cure without the added security of medicinal application.

Finally, I quite agree with what your esteemed correspondent says as to the duty of dealers in bees. In such cases there is no question as to what ought to be done, and that quickly. On the other hand, a customer will doubtless feel safer in trusting to a man who has had a wide and varied experience, rather than place his confidence in one who, whether rightly or wrongly, professes ignorance of the disease. It will be a good thing for the whole fraternity of bee-keepers when (if ever) a foul-brood inspector is appointed. Dealers should welcome such a desirable

event, as their own position would be made more secure; while a certificate from the inspector showing a clean bill of health would be invaluable. I have for many years shown the necessity of dealers supplying stocks upon new combs only, even when assured their apiaries are quite clean. In every case purchasers should insist upon a guarantee that the seller's apiary is free from disease, for even swarms from diseased hives may not always prove harmless.—SAMUEL SIMMINS, Broomham, Heathfield, June 1.

RENEWING COMBS ANNUALLY.

[6743.] No wonder your Cornwall correspondent, Mr. W. J. Farmer, sometimes writes in a strain of pessimism on the question "Will bee-keeping cease to pay?" According to his letter in last week's B.B.J. (6724, page 213), he deliberately throws away, so to speak, the most valuable asset a bee-keeper can possess—namely, good combs. After delicately hinting at the overflowing measure of his skill, which even surpasses that of the compilers of the text-books, in the way of precautionary measures, he tells us that he "simply sprays in good time and renews the combs annually." Why, the combs will no sooner be built than it is time to spray them; then before the smell of the antiseptic—which I presume he uses with the spray—gets well off them they are renewed. They will be in use not much longer than the bees that have been cradled in their cells will live. As a means of keeping foul brood at bay this method must be effective—very. But how expensive!

I wonder if Mr. Farmer is keeping bees for fun or with a view to profit? If the latter, I should recommend him to try to convert his "eighth-of-a-mile-away" neighbour to more cleanly habits, and turn his skill to trying to keep his combs till they have returned a decent percentage of profit for his outlay and the labour of his bees in building them. To my mind, nothing could be more wasteful than this annual destruction of brood-combs. It is only a step short of the old system of the annual destruction of the bees themselves to get at their honey. I am not an advocate of keeping combs to a great age, but why should they be destroyed so long as they are useful and free from disease? Surely skilled bee-keepers, or amateurs either, need not put out of action good combs until they are actually infected or useless from some other cause. As an instance of how long combs can be useful, let me relate the following: In the early days of last month I was asked by Mr. Claude Lonsdale, of Carlisle, who is one of the pioneers of the bar-frame system and the use of comb-foundation in this district, to look in his hives, as he thought the combs might want renewing. The combs in use had been in the hives and had never been disturbed, to the best of his knowledge, for twenty-five years, and it might be more. The hives, three in number, were old and dilapidated, and on removing the roofs I found the bees had wintered with no more covering than a double thickness of calico, with a hole for feeding in the centre. The top-bars of the frames had rotted away at the ends in one hive, and the combs rested on the bottom of the hive. The combs were as black as ink and tough as leather, otherwise they were quite good, with not a trace of disease in any of them. One which I carried home as a curiosity has hardly a cell put out of use, and was the only one which did not contain either eggs, brood, or honey. What interested me most was, of course, the bees, which had been hatched and matured in cells so old. As far as I could tell after a careful examination, they were quite as large and perfect in every way as any bees I have seen, and all the hives were simply boiling over with bees, ready for supers any time.

While not advocating leaving combs in the hive for twenty-five years, I strongly deprecate the teaching of the wasteful and quite unnecessary system of annual renewal of combs.

"The man who runs his apiary for profit is hardly likely to employ radical measures on the first appearance of foul brood, if he has confidence in his ability to keep the disease within such limits as will not prevent him from obtaining a profitable return" (Dr. Elliot, page 216, current issue B.B.J.). Why, then, should a skilled apiarist destroy combs annually? To prevent them getting foul brood in them? Surely not.—G. W. AVERY, Hon. Sec. and Treas. Cumberland B.K.A., Armathwaite, Cumberland.

FIRST-CLASS CERTIFICATES.

THE QUESTION OF IMPROMPTU LECTURES.

[6744.] Respecting this matter I am thoroughly in agreement with your correspondent Mr. Coltman (6732, page 224), especially as regards the lecture part of the examination, which is, in my opinion, too severe. I do not see that the B.B.K.A. should practically bar out of the first class those who fail at an extemporary lecture on a subject they have had no previous opportunity of preparing. Of course they are told five minutes beforehand, but other professions do not demand such qualifications from candidates. Take the Church—how many clergymen could preach for thirty minutes on a given text without copious notes? and certainly

first-class experts would nearly always be able to prepare their lectures if they wished. Most sermons are written out, and it is certain that if a profession whose main duties are public speaking requires such aids, an ordinary person would require them more. Besides, why is it necessary? In a bee-tent an expert gives a lecture which could be prepared, and then answers questions. Why not let the candidates for a first-class diploma prepare their lectures on paper under the eyes of the Examining Council, and then deliver them? Questions could be asked and the whole thing treated on bee-tent lines. It is certain that the lecture under its present conditions is keeping a great many first-class men out of the examination—men who both in practical and theoretical knowledge are quite of the first rank. They are not extempore speakers perhaps; but I do not consider that should bar their way, as it is a very open question whether that is a necessary qualification. I enclose name and sign—MEDICO, Leicestershire, June 10.

[We are deferring our intention of dealing with the above matter this week in order to see if others have any opinions to offer, so that the subject may be finally dealt with.—EDS.]

THE SEASON IN WARWICKSHIRE.

SOME NOTES ON BEE-KEEPING.

[6745.] The weather during the past month in Warwickshire has been wet and cold; consequently bees have not been able to do much. But as I write it has changed for the better, the last two days being very warm, and, under the influence of a powerful sun, my stocks have been working splendidly. In this district the main honey-flow is from fruit trees and the raspberry canes, now coming into flower.

I am sure all bee-keepers in England and Scotland sympathise with their brethren in the Isle of Wight at the new disease that seems to have overtaken them. All must hope that it does not spread any further, and that a remedy will soon be found. I think the term bee-paralysis is not suitable for a disease that affects the internal organs. We may as well call it after the French bee-keepers, *mal de mai*, or as Germans term it, *Maikrankheit*, which in English is "May sickness."

I see there is much discussion in your paper on the various races of bees and their respective merits or demerits. I myself keep none but English blacks, and find them industrious, good-tempered, and all that a bee-keeper could wish. Despite the bad weather, my bees have done fairly well; the first swarm issued on May 27. A friend of mine had two swarms in that week. I only started bee-keeping in May, 1906, and am now the happy possessor of three fine stocks.

Some readers complain of queens being balled, and put this down to trying to improve their stocks by hybridising. Last year and this I examined mine pretty often as early as April, and never had a queen "balled." If bee-keepers would make a point of only keeping the native bees, and so ousting any foreign element, I think a lot of the faults bees are charged with could be got rid of. I never use smoke, only a slightly-carbolised cloth, in subduing my bees; it is easy of manipulation, and helps to keep away disease.

I get a medicine bottle marked off in tablespoonfuls, and add 1 tablespoonful of Calvert's No. 5 carbolic acid, and 2 of water. Cut a hole in cork of the bottle, and, after shaking the acid and water together, I slightly sprinkle a calico 20 in. square. I then put this cloth in an airtight tin, and it lasts for months without being sprinkled again. At least, the small quantity mentioned above (viz., 3 tablespoonfuls) lasts a whole season; the cost is only 3d. or 4d., whereas the cheapest smoker costs 2s. 6d. Again, if bees are examined in the autumn, when their stores are sealed over, smoke is useless, and with two cloths you can cover every frame except the one being examined, and you thus save a lot of stings. Beginners must, moreover, not saturate their cloths too much, or they may do more harm than good.

Miss Richards, Mabe, Cornwall (6737, page 226), mentioned in the B.B.J. last week, is indeed a "brave lady," and I offer her my heartiest congratulations. If every lady and gentleman were as brave we should have many more taking up this interesting hobby, as I know from experience that fear alone keeps some from taking it up. I see Mr. Farmer, of Redruth, like myself, advises bee-keepers to stick to native bees. What nature has done in the way of acclimatising, man should not try to undo. So far, then, I differ from Mr. Sladen and others, although in many ways I am a great admirer of Mr. Sladen's useful work in advancing apiculture, and if ever I visit Dover I shall certainly call at Ripple Court Apiary and make his acquaintance.

I have taken in the B.B.J., and also the *Bee-keepers' Record*, for three or four years regularly, and what with these papers, the "Guide Book," and assistance I have had of Mr. Franklin (expert of our county B.K.A.), and from a few of my fellow members, I have so far got on well with my hobby; but premier honours go to the "Guide Book" by Mr. T. W. Cowan. Wishing all brother bee-keepers a good harvest this year, I send name for reference, and beg to sign myself — YENTON MAJOR, Birmingham, June 9.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of May, 1907, was £3,302.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

WEATHER REPORT.

WESTBOURNE, SUSSEX,
May, 1907.

Rainfall, 3·08 in.
Heaviest fall, 1·05 on 31st.
Rain fell on 17 days.
Above average, 1·20 in.
Sunshine, 164·1 hours.
Brightest day, 4th, 13 hours.
Sunless days, 1.
Below average, 71·8 hours.
Maximum temperature, 69° on 12th.
Minimum temperature, 35° on 19th.
Minimum on grass, 28° on 21st.
Frosty nights, 0.
Mean maximum, 58·8.
Mean minimum, 44·9.
Mean temperature, 51·8.
Above average, 0·6.
Maximum barometer, 30·21 on 18th.
Minimum barometer, 29·40 on 2nd.

L. B. BIRKETT.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Superstitions (page 211).—It may easily be that some of these are "founded upon fact." Bees collecting varnish from a coffin have no doubt been "following the master." A river is an awkward place across which to carry a hive, and it might easily prove to be unlucky! Thus, too, a swarm of bees issuing on New Year's Day would not, "in this locality," do well, and might give the day a bad name if it happened to be Friday! It is, however, undoubtedly a fact that not much good would be done by a swarm in either hemisphere so early or so late as February 30!

New Combs (page 213).—If a stock be quite healthy, what is the need for this annual renewal of combs so strenuously advocated by Mr. Farmer? If this is only a precautionary measure, would not some of the despised medicines do equally well? On the other hand, if it be done because the stocks invariably become diseased, at what period of the year is it regularly done? Quantities of healthy brood must be destroyed, seeing that the disease is "never to be allowed to reach the spore stage"!

What's in a Date? (page 215).—Surely, Mr. Sleight, it was almost flying in the face of superstition to introduce a new queen on April 1! Fortunately, the bees seem to have accepted the matter (should I say *mater?*) as a very practical joke indeed! But perhaps it was after twelve o'clock!

Foul Brood (page 215).—This article has anticipated a paper which I still have unlaunched upon the foul-broody stocks! I am glad to be released, as so many of the points are effectively dealt with by so capable a critic as Dr. Elliot. His speculation that the gathered honey may be specifically responsible for the activity of the poison glands may be carried farther to suppose different nectars variably potent in causing secretion of the poison, and consequently variation of percentage of the acid in the stored honey.

Prevention of Swarming (page 217).—Decidedly a novel suggestion! But why should the worker-brood not suffer? If the shaking were done just before an expert visit the displaced larvæ might be diagnosed as diseased! I have known it to be the case. Queen-rearing might be prevented for good if the combs were new and tender! As to the amount of "jar" required to prevent swarming, I would advocate the 1-lb. size, and plenty of *them!*

Motor Nuisance (page 223).—This suggested relationship between motors and may-bloom is interesting. Perhaps the dust does not actually reach the nectaries. Should it do so, the honey would have to be classed as dusty, and "not so dusty"! Is it possible that a diluted honey might be the "solution" for the road difficulty? A good many bees might get run over, and the sprinkler-cart driver might have a happy time, but there would at least be a new *outlet* for our product!

Isle of Wight (page 223).—If this report accurately represents the state of affairs in the island, no expression can be too strong to fit the case, and it behoves us to consider ourselves as vitally interested. If necessary, we should be prepared to assist the island bee-keepers financially in any organised effort to stamp out the plague. May I extend to them our sincere sympathy in their losses and difficulties?

The Weather (page 225).—May this be the last time this year that we shall have to refer in objurgatory terms to this unfortunate topic. The weather seems to be all "fits and starts," but fitting weather seems to have started at last; let us hope it will see fit to stop! The longest day will soon have passed, and summer has not yet begun!

Stingless Bees (page 227).—It is more than doubtful if these Mexican bees can compare with our own variety for work, and they might prove far less tractable. I am told that when they are aroused they become perfect little furies, attacking in numbers and biting viciously. For my own part, I had rather be stung than bitten!

Queries and Replies.

[3525.] *Queen-raising.*—I last year took four lots of bees from hollow trees and successfully got them fixed up in frame-hives. The first lot filled up the ten frames and gave me nearly twenty sections. Unfortunately, however, the bees, after wintering safely, died out this spring, though I gave each stock 1 lb. of candy. The other three hives are doing well, especially one of them, which I brought from a place seven miles away. When examined early this spring all the frames were well covered with bees. I am raising queens from same. 1. Should I destroy all the drones in the hive I am using for queen-raising, and by this means do away with any chance of in-breeding? I have fourteen others. 2. Would you advise me to kill the old queens now and introduce young ones, or wait till the autumn? An answer in BEE JOURNAL will much oblige.—ALFRED STONE, Oxford, June 8.

REPLY.—1. We should hardly trouble to kill off drones, as proposed. The chances of in-breeding are very small. 2. Defer re-queening till autumn.

[3526.] *Swarming Uncertainties.*—On May 23 a swarm issued from one of my hives, and after being successfully hived appears to be doing well, having on June 8 four frames of comb well drawn out and nearly full of sealed brood. On June 7, from the same hive, a quantity of bees issued, and in about ten minutes clustered on a fruit-tree near by. I at once prepared to take them, but to my surprise the bees were leaving the cluster and returning to the parent hive as fast as they had come out half an hour before. On examining the stock next day I failed to find a queen, but found two queen-cells sealed, but very little brood. Is it probable that the young queen that came out with the cast got destroyed and that the bees returned without her? Name sent for reference.—BEGINNER, Woking, June 10.

REPLY.—Your inference is right, and it seems certain that the young queen hatched out after the top swarm had left has met with a mishap after leaving with the swarm and been lost.

[3527.] *Bees Preparing to Depose Queen.*—I would much esteem replies to the following in this week's B.B.J.:—On examining one of my hives two days ago I found the stock rather weak, barely covering four frames, and very little brood was seen. On looking up the queen she appeared very small and thin. There were two queen-cells already capped, and others in course of formation. The stock in question was an artificial swarm of July last year, and I rather think the old queen was raised from a larva and not an egg, which might account for her poor quality. 1. Shall I leave bees to re-queen themselves, or would it be best to destroy the old queen at once? 2. If bees are left alone, are they likely to swarm? In event of this I would return swarm, killing the old queen if found. Would this be the right course?—NOVICE, Penge, June 10.

REPLY.—1. We should remove the old queen at once. 2. Not very likely, as the first hatched queen will kill the others off as they issue from their respective cells.

[3528.] *Preventing Increase.*—I am the owner of eight colonies of bees, which occupy eight frame-hives, all parts of which are interchangeable. Having no more room at my disposal, I am somewhat concerned lest some of these hives should swarm this season. I am wondering, therefore, whether it would be feasible, provided I knew from which hive the swarm issued, to place such a swarm in a hive containing brood-combs and set it on the top of the parent hive? Excluder-zinc would, of course, be placed between the two brood-chambers to prevent the respective queens from coming into contact. Would the two colonies work in the supers above the swarm? The drones in the swarm would present a difficulty, as they could not get out of the upper brood-chambers unless one side of this were tilted slightly so as to admit of their egress. At the end of the honey season the two colonies would run together, and the queen heading the swarm in the upper story would be deposed. I cannot see anything in the "Guide Book" to meet my case. I shall appreciate an early reply in the B.B.J.—E. R., Yorks.

REPLY.—Not having tried the method of preventing increase described above, we cannot say for certain what the result would be, and do not like the idea much. Why not return the swarm to the parent hive, and kill the old queen as the bees run in?

Echoes from the Hives.

Worcester, June 1.—I have seven stocks all supered and in splendid order, two of them working in the second racks of sections, and one with shallow-frames under a rack of sections, which are mostly sealed over.—J. L. B.

Grantown Station, G.N.R., June 5.—Weather extremely unfavourable in these parts. Nearly a fortnight of continuous east winds with cold rain. Bees are wonderfully strong despite it all, but they are losing the apple and cherry blossom, which is being badly blown about. Saw a fine swarm from Luton passing our station for friend "D. M. M." (whom I frequently meet) the other day. It will be entirely dependent on the feeding bottle. I have about thirty hives, and could give you a photo with few notes if you care. With best wishes.—P. CRUICKSHANK.

[Send photo on by all means. We will have it engraved if suitable for "Homes of the Honey-bee."—EDS.]

Bee Shows to Come.

June 25 to 29, at Lincoln (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Entries closed.

July 17 and 18, at Burton-on-Trent.—Honey Show of the Staffordshire B.K.A. Special prizes, including five Open Classes. Prizes, 20s., 10s., and 5s. Single 1 lb. Jar and Section (entry free). Schedules from Joseph Tinsley, Expert, Chebsey, near Stafford. **Entries close June 22.**

July 24 and 25, at Cardiff.—Annual Show of the Glamorgan B.K.A., in connection with that of the Cardiff and County Horticultural Society. Honey, Wax, Appliances, &c. Classes for members, novices. Five open classes, with prizes for sections and bee appliances, 40s. and 20s. Entry fee for one or more of the open classes to non-members, 2s. 6d. Schedules from Wm. Richards, Hon. Secretary, The Red House, Gabalfa, Cardiff. **Entries close July 20.**

July 25, at Tiverton.—Annual Show of the Devon B.K.A., in conjunction with the Tiverton

and District Agricultural Association. Open classes. Schedules from R. W. Furse, Hon. Sec., Woodbury, R.S.O. **Entries close July 9.**

July 31, at Henbury, near Bristol.—Annual show of Honey and Wax of the Henbury District Bee-keeper's Association, in connection with Horticultural Society's Exhibition. Seven open (three free) classes, good prizes. Bee Demonstrations. Schedules from Hon. Sec., F. E. May, "Bellasis," Stoke Park, Westbury-on-Trym, Bristol. **Entries close July 24.**

August 5 (Bank Holiday).—Annual Honey Show of North Norfolk B.K.A., in connection with the Melton Constable Horticultural Association. Schedules from C. J. Cooke, Edgefield, Melton Constable. **Entries close July 27.**

August 8, at Abingdon Park, Northampton.—Honey Show of the Northants B.K.A. Two Special Classes, including one for single 1 lb. Jar Honey. Entry free. Prizes, 20s., 10s., 7s. 6d., and 2s. 6d. Schedules from R. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 3.**

August 8 to 10, at Barnsley.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. Schedules and form of entry from John Maughan, Secretary, Blake-street, York. **Entries close June 29.**

August 21, at Lancaster.—Show of Honey, &c., in connection with the Lancaster Agricultural Society's Annual Show. Open Classes for Extracted and Comb Honey, also Beeswax and Produce. Challenge Cup value £5 5s., also six silver and bronze Medals, and other Specials. Schedules from Thos. Armitstead and Son, Auctioneers, Lancaster. **Entries close August 7.**

August 21, at Radstock.—Annual Show of the Somersetshire B.K.A., in connection with the Radstock Horticultural Association. Seven open and two free classes; good prizes. Schedules from Herbert J. Moore (Show Secretary), Foxcote, Radstock. **Entries close August 14.**

August 21 and 22, at Shrewsbury.—Shropshire B.K.A. Annual Show, in connection with the Shropshire Horticultural Societies' Great Floral Fête, in the Quarry, Shrewsbury. Nine Open classes for Honey and Wax. Free entry for single 1 lb. jar and single 1 lb. section. Schedules from S. Cartwright, Hon. Sec., Shawbury, Shrewsbury. **Entries close August 9.**

August 28, at Chester (Cheshire Agricultural Society's Show).—Bee and Honey Department, under management of the C.B.K.A. Open classes for Hives, Sections, and Extracted Honey. Increased prizes. Members' classes, District class. Special prizes offered by Chester Tradesmen's Association. Schedules from T. A. Beckett, St. Werburgh's-chambers, Chester. **Entries close August 7.** Post entries at double fees to **August 14.**

August 28 and 29, at Rugby (Warwickshire B.K.A.).—Show of Honey and Bee Appliances, in connection with the Annual Show of the Warwickshire Agricultural Society. Schedules from Jas. N. Bower, Hon. Sec. Warwicks. B.K.A., Knowle.

Notices to Correspondents.

W. F. (Windsor Forest).—*Queen Cast Out of Swarmed Skep.*—The bee sent is a young queen, killed by the one first hatched out after the top swarm had left. This being so, the parent stock will go on all right.

F. W. J. A. (Barry).—*Signs of Mating.*—The "curious appearance" in dead drone sent is the usual sign of its having mated with a young queen.

E. C. S. (Leeds).—*Bee Nomenclature.*—Wild bees sent belong to the Andrena species, and make nests in the ground, as stated.

East Saxon (Essex).—*Managing Swarms.*—It is hard to foretell what results you will get as regards the season's honey-crop. Weather is such an important factor in the question. Your letter was inadvertently mislaid till we were preparing for press, but we will print it in full next week as being of general interest.

Queen (Derby).—*Dead Queen Cast Out of Hive.*—The queen sent has the appearance of being old; consequently it is about certain that the bees have deposed her, and are raising a successor.

Suspected Combs.

F. D. (Salop).—Bad case of foul brood.

Warwickshire.—Brood in comb sent apparently died from chill, there being no sign of foul brood in cells.

F. Andrews (Norfolk).—No sign of foul brood in comb. Brood in cells is chilled, and of the two samples of dead bees, one lot is normal in colour, &c., the other being saturated with water, consequently black. The comb goes to show that bees have died from famine.

Mrs. Shirley (Somerset).—Both samples are badly affected with foul brood, and the stocks should be destroyed.

M. T. (Leeds).—Comb contains nothing worse than pollen; no brood at all in cells.

S. Y., jun. (Stafford).—No foul brood in comb; but latter is so old and black as to be worse than useless to bees, and hardly worth melting down for wax. It is also infested with wax-moth.

H. L. R. (Staffs.).—Brood is chilled only, and as comb is quite new it may be given to the bees to clear out and use again.

G. Roberts (Stroud).—Both samples are affected with foul brood.

J. S. (Croydon).—There is nothing in brood that shows more than we have seen in other samples. (See Leader in last week's B.B.J.).

W. Gray (Banffshire).—We regret delay in opening parcel, but brood was covered with green mould when examined. There is distinct foul brood in it. As stock is so weak we should destroy it altogether.

G. Foster (Hants).—Larvæ in comb have all the appearance of black brood. No sign of *Bacillus alvei* in it.

F. T. R. (Felling).—The dead larvæ in cells bear the usual appearance as when affected with the disease known as black brood.

W. H. M. (York).—No trace of brood at all in cells, which contain only old pollen. The comb is black, and needs renewing badly.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

TRY MY PRACTICAL, HOME-MADE VEILS, safe, comfortable, 1s. 9d.—HILL, Thorneloe, Worcester. z 89

TWO SWARMS on Frames and three Strong Stocks, in "W.B.C." Hives, for sale, £5, or would be sold separately; also "Wells" Hive, as good as new, 15s.—WHEELER, 446, Stratford-road, Sparkhill, Birmingham. z 80

WANTED, GOOD PIANO; part exchange Stocks and Swarms of Bees.—G., "British Bee Journal" Office. z 86

HEALTHY NATURAL SWARMS, 10s. 6d. and 12s. 6d.; 3-Frame Nuclei, 10s. 6d.; Stocks, on wired combs, from 20s. each.—R. CARTER, Chartridge Green Farm, Chesham, Bucks z 92

14 SECOND-HAND HIVES, with Lifts, Supers, Excluders, Observatory Hive, Skep, Ungeared Extractor, Ripener with Strainer, Smoker, Sundries; also one Stock Bees; the lot £5 5s., on rail.—MOORE, Thrupp, Stroud. z 93

Special Prepaid Advertisements.—*Continued.*

QUEENS, delivery after June 7th, any number (see advertisement page v. last week); Nuclei, 4-frame, with Queen, 12s. 6d.; started now would make a full Stock for next season, or store surplus at Heather.—CHARTER, Tattingstone, Ipswich. z 52

STRONG NATURAL SWARMS, 1906 Queen, 12s. 6d., 13s. 6d.; 3-Frame Nuclei, 1907 fertile Queen, 12s. 6d.; Stocks, in Skeps, 1906-07 Queen, 12s. 6d., 13s. 6d.; Stocks, on ten Standard wired Frames, 25s.; fertile Queens, 3s. 6d.—W. WOODS, Normandy, Guildford. z 87

EXTRA STRONG "COWAN" HIVE FOR SALE.—Particulars, DUKE, 3, Fairfield-road, Chelmsford. z 88

NEW HONEY, good quality, bulk or jars; sample 2d.—CHARTER, Tattingstone, Ipswich. z 85

EXCHANGE "WELLS" HIVE, good condition, for Bees, or 15s.—ANGUS, Chilcote-street, Barry, Glam. z 84

WANTED, SITUATION IN AN APIARY, for Summer only.—D. VARTY, Etwall, Derby. z 83

MULLER'S AUTO-HARP, ORPHEUS, 11 Bars, 33 Strings, with Tutor, new. Cost over £2; will exchange for Swarms of Bees; best offer.—Apply, WILLIAMS, Morley House, Llangoed, N. Wales. z 81

TWO STRONG STOCKS, on Standard Frames, in full work, Simmins' "White Star" strain, 21s. each; also Simmins' "Double Conqueror" Hive, with six section crates and two shallow frame crates, which all slide in, as new; Swarming prevented or obtained at will, 42s.—J. POTTINGER, York Lodge, Kew Gardens, London. z 90

SITUATION WANTED by Handy Man, assist with Bees, garden, understands making appliances; certificated.—SHORT, Great Barr, near Birmingham. z 75

STRONG HEALTHY NATURAL SWARMS, 12s. 6d.; Skeps free; safe delivery.—CADMAN, Codsallwood, Wolverhampton. z 74

SWARMS WANTED, quantity 2s. lb.; Stocks, 8s.; Honey, 30s. cwt.—KEATLEY, Four Oaks. z 78

WANTED, SWARMS. Exchange New Hive or dozen pure-bred White Leghorn chickens.—LITMAN, Castle Cary. z 77

PRIME NATURAL SWARMS NOW READY, 12s. 6d. and 15s. each; order at once.—PERCY WILKINS, Letcombe Regis, Wantage. z 76

AN ENGLISH LADY AND GENTLEMAN, with twelve years' recent experience in advanced Bee-keeping in the United States, whose apiary is near Cambridge, are open to receive a Lady or Gentleman Pupil on moderate terms; delightful country home.—Address, "MINNESOTA," care of Titmarsh, Advertisement Agent, Linton, Cambs. z 91

FULL STOCKS, IN HIVES, £2; Italian Nuclei, 12s. 6d.—HANNAM, Highgate-road, Birmingham. z 79

HAVING DISPOSED OF BEES, quantity Shallow Combs for sale, 5s. 6d. dozen.—GARNER, Dyke, Bourne.

BEE-KEEPERS' NECESSITIES.—British Weed Foundation, Brood, 2s. 5d. lb.; Super, 2s. 9d.; 5 lb. 1d. lb. off, 10 lb. 2d., postage 4d. first lb., 1d. lb. after; Hives, 7s. 6d., 18 by 16, for 10 Standard Frames, double walled back and front, 9 in. lift, telescope roof and porch; also Hives, ditto, 18 by 18, with dummy, sliding entrance, 9s. 6d.; self-adjusting Frames, 1s. 2d. doz., 8s. 100; "W.B.C." ends, 2s. 6d. gross, post. 4d.; Split-top Sections, 2s. 9d. 100; Section Racks, 2s. 6d.; Shallow Frame Crates, complete, 3s. Cash with order.—COX, manufacturer, Smallbrook-street, Birmingham. y 28

Special Prepaid Advertisements.—*Continued.*

QUEENS, Blacks, Carniolans, Golden-all-overs, and Italians, by return post; every Queen guaranteed satisfactory; Virgins of above ready June 1. Descriptive list free.—"CRUADH" APIARIES, Ballyvarra, co. Limerick. z 11

SWARMS FOR SALE, 10s. and 12s., supplied in rotation.—BRADSHAW, Allerston, Pickering. z 38

31ST YEAR.—Three Frame "Nuclei," Bees, Brood, and prolific Queen, 12s. 6d.; case, 3s., or returned carriage paid.—ALSFORD, Expert, Haydon, Sherborne. z 73

GOOD NATURAL SWARMS FOR SALE, 10s. each.—H. HOLLEWORTH, New Inn Farm, Widmerpool, Notts. z 61

QUEENS, few choice 1906, 3s. 6d. per return.—TAYLOR, "Hollyhurst," Boldmere, near Birmingham. z 72

FOR SALE, 8 Hives of Bees, Bar Frame Hives.—JOHN BOWES, Appleton-le-Street, Malton. z 68

WANTED, CERTIFICATED EXPERT, at once, for fortnight, for Kirkcudbrightshire, £6 for period; references.—Apply, AIRD, Hardgate, Dalbeattie, N.B. z 60

2 STOCKS BEES, in "W.B.C." Hives, and 5 empty Hives, the lot £5; 2 "W.B.C." Section Racks, 7s.—J. BROOKFIELD, 108, Stamford-road, Birkdale, Southport. z 59

A FEW SECTIONS OF HONEY, glazed, good quality, at 7s. 6d. per doz., on rail.—W. WOODLEY, Beedon, Newbury.

EXTRACTOR, EMPTY HIVE, and other appliances for sale.—Write, 13, The Circus, Greenwich. z 41

"DOOLITTLE" STRAIN GOLDEN QUEENS, Virgins 1s. 6d., Fertiles 5s.; all orders executed in rotation; book now, stating date wanted. Customer writes: "Your Queens head the best colonies I have."—D. TAYLOR, Ilminster. z 42

SECTIONS WANTED, in any quantity (glazed). State lowest price delivered, and about when ready.—HONIELADE CO., 48, Bermondsey-street, London, S.E.

PROTECT YOUR FRUIT.—Tanned Garden Netting, only best quality supplied. Order promptly, as nets are scarce and must be dearer. 25 yds. by 8 yds., 50 yds. by 4 yds., and 100 yds. by 2 yds., 9s. each; add ten per cent. for other sizes.—L. WREN AND SON, 139, High-street, Lowestoft. y 39

SWARMS IN JUNE, price 12s. 6d. each.—THOMSON AND SONS, The Nurseries, Wimbledon. z 13

GILLIES MARVELLOUS CONTROL-CLOTH, in vest pocket case, with clearly printed instructions for manipulation of Bees; two delivered anywhere, 7d. stamps.—43, Dawson-street, Dublin. Agents wanted. y 61

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester.

FOUNDATION-STRETCHING PREVENTED by simple device. Sample set, with directions, P.O. 1s. 1d.—W. PALMER, 174, Curzon-street, Netherfield, Nottingham. y 86

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

WANTED, for Scientific purposes, QUEEN BEES and WORKER HORNETS. Will brother bee-keepers oblige?—HERROD, Apiary, Luton.

Editorial, Notices, &c.

THE COMING SHOWS.

The abnormally wet June, as the present month has been justly termed, will, we fear, have a serious effect on the bee and honey shows of the immediate future. Without possessing any official knowledge of the extent to which entries have been affected, we are prompted by the greatly improved weather conditions of the past few days to call the attention of readers to the early date on which entries will close for several important shows of bee-produce, at which numerous and valuable money prizes are to be competed for, and the excellent chances afforded to bee-keepers who are favourably placed with regard to honey-gathering for the next three or four weeks. Within that period there is time for securing a good crop of the finest honey—viz., that from white clover, which will be in the best condition for yielding nectar to the bees.

The shows to which we draw attention because of the few days remaining before entries close are the Staffs B.K.A. at Burton-on-Trent, on July 17 and 18 (date for closing entries extended to June 28); Lancashire Agricultural Society at Bolton, Aug. 1 to 5 (entries close July 1); Devon B.K.A. at Tiverton, July 25 (entries close July 9); and Glamorgan B.K.A. at Cardiff, July 24 and 25 (entries close July 20). All the above are important shows, and, to instance one only, we may say the Lancashire Society are offering the sum of £35 in the thirteen classes for honey, wax, and appliances, together with a challenge cup value £5 for honey trophy, in addition to the silver and bronze medals of the B.B.K.A. and of the Lancashire Agricultural Society. Prizes like these should surely tempt bee-keepers to make an entry without delay.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[6746.] *The Season.*—Here in Wessex June so far may be described as a drop of honey in a draught of gall! For every real June day we had a whole week reminding us of March—windy, cold, and sunless. The farmers' complaints have been loud and long about the want of sunshine in order to begin haymaking. In my neighbourhood the bees will soon be deprived of the chief source of the best honey-supply—*i.e.*, the sainfoin—after being in full bloom just over a week, unvisited by the bees because of constant rain. My only hope now is that a field or two may be left for seed; then if the weather keeps as fine as it is while writing (17th), I may still hope to make up for some of the lost time.

The First-class Certificate.—My opinion on this question is that the B.B.K.A. should continue the present method of procedure. Aspirants for the first-class diploma who are unable to do so without preparing their lecture beforehand or reading it off like a schoolboy should be content with second-class honours.

Foreign Bees.—A great deal has been written of late giving the idea that foreign races of bees are better workers than natives; but many things go to make up the big harvest of honey, apart from the race of bees. Location makes a vast difference in the amount of honey gathered. The apiary should be sheltered from north winds to prevent spring-dwindling, then stocks would grow continually till the hives teemed with bees, and in May we should get our supers filled, while colonies in exposed situations on the hills will be continually dwindling throughout the spring. Bee-forage, too, varies much in districts quite near each other. In this way the forage makes all the difference between good and poor honey-crops. Again, some districts furnish early forage in abundance, while in others bees will do only for late-summer forage. Besides, the skill of the bee-keeper is an important factor in securing a good crop. In view of all this, there is no way of fairly comparing native and foreign bees without working stocks of each kind side by side. —W. Woodley, Beedon, Newbury.

ODDS AND ENDS ABOUT BEES, ETC.

[6747.] *Keeping Note of Manipulations.*—Some bee-men use a slate or pasteboard card, others advise a notebook. All these I have tried and discarded. This is my latest, and, if it is new to anyone, they might give the suggestion a trial. Paint the inside of the top lift of each hive with white paint; then with a pencil mark on the inside of the lift the date and nature of each operation. Simply stoop sideways, standing behind the hive, and write on the left-hand side parallel to the corner. There is enough space round one lift to keep record for eight or ten years.

Model of the Honey-bee.—A fine handy model of the honey-bee is published by the Gresham Publishing Co. along with their "Natural History." The different parts are movable, and the model would

be serviceable to those studying the anatomy of the bee. Perhaps the managers of the B.B.J. might be able to get a number for sale to bee-keepers, if they should deem them useful.

A New Move in Ayrshire.—On Saturday, May 25, Mr. Guthrie, bee expert, Alloway, gave a very able demonstration of the practical management of the bar-frame hive and the manipulation of bees to a meeting of teachers. This is, I believe, the first attempt made to interest the rural teachers of Ayrshire as a body in practical bee-keeping. May the attempt meet with the success it deserves. For those who listened to the lecture the subject presents a vast field for observation and intellectual enjoyment, and lays open to them a great and worthy sphere of usefulness for educating the rural population in the benefits to be derived from keeping bees on every arable farm and wherever fruit trees are cultivated. With a better knowledge of the practical management of bees, many rural teachers could add considerably to their incomes and assist cottagers to add to their scanty earnings. Mr. Guthrie was very heartily thanked at the close of his very able demonstration.

"*Cappings of Comb*" (page 217).—Now, all ye men who write bee-notes,

> If there's a hole in a' your coats
> I rede ye tent it;
> A chiel's amang ye takin' notes,
> An' faith he'll prent it.

Those who live in glass-houses should observe the teachings of the proverb there anent. The temptation to depart from the lines I have hitherto observed in my "Odds and Ends" has this week been too much for me. The genial writer of "Cappings of Comb," in his notes on page 217, while riding roughshod over the elementary rules of grammar, forgets that there may be some who have a passable knowledge of such trifles, without being quite so experienced as himself in the use of the pen.

Under the paragraph "Orthography," whilst indulging in a game of "leg" pulling, he expresses himself in the following grammatical freak: "Certain it is that he or I *is* in order." Had he written "e" or "i," or "he" or "hi," the reference to "either" or "iether" would have been apparent and correct, if he meant that.

In his reference to "Bees and Rape," the allusion to "even human noses" suggests the idea that a fine, regular nasal organ is more highly endowed with the sense of smell. Surely "even by human noses" expresses correctly his meaning.

The Flight of the Queen.—It is not good policy to condemn figures as "crude and unchecked" because one may thoughtlessly think so. The figures were the result of calculating the length of the supposed spiral curve, and not of the terminating quadrant. I did not care to inflict a mass of figures upon your readers. Those who read the B.B.J. have a right to expect that such figures as I gave were not guesswork. I shall, however, briefly state how I arrived at them. I had observed the initial curve of the queen's flight in relation to my garden, which is almost 35 yards square (not 35 square yards). Upon this square I based a simple spiral, the radius of each quadrant being increased in the usual way. The successive radii would increase as follows:—35, 70, 105, up to 560 yards. The circumference of each quadrant =

$$\text{Radius} \times \frac{2 \times 3\frac{1}{7}}{4} = R \times 1\frac{1}{7}$$

Hence the successive arcs of the quadrants measure 55 yards, 110 yards, 165 yards for sixteen terms to reach a distance of 560 yards from the hive. The total of these distances may be found by addition or arithmetical progression, and amounts to 7,040 yards. I imagined that the queen would return in a bee-line, thus adding 560 yards to her flight, and making almost five miles. My inference that this distance, as the utmost expansion of the spiral, would amply account for the twenty minutes' absence was fairly reasonable.—D. V., Dunaskin, N.B.

EXPERTS' CERTIFICATES.

THE FIRST-CLASS EXAMINATIONS.

[6748.] I was one of the candidates mentioned in Mr. Coltman's letter (6732, page 224), and had intended deferring any expression of my views on this subject until the results of this year's examination were published. Seeing, however, that our Editors invite further expressions of opinion before the subject is "finally dealt with," I hasten to Mr. Coltman's aid.

Let me say first that I do not agree with "Medico, Leicestershire" (6744, page 235), that the "impromptu lecture" is a mistake. It is of the first importance that the expert in bees should have the power of expressing himself clearly and tersely on *any* subject connected with his craft, and it is equally important that he should speak from "first-hand" experience, and not "second-hand" knowledge derived from bee-books. Any well-educated man could read up the subject and prepare half a dozen set "papers," and reel one of them off before the Council at the examination. A long catechism would then be necessary before the Council could decide on the real knowledge of the candidate. The "impromptu" of necessity shuts out from

the first class many bee-men whose practical knowledge is of the best, but who are deficient in lecture power. But again I hold that the policy of the Council is on correct lines. Who has not at times suffered from the bee-tent lecturer who, although master of his subject, was not master of his mother-tongue? To lower the standard of proficiency in power to "talk bees" effectively would in my opinion be a big mistake.

With regard to the general conduct of the examination, I think something might be done to lessen the expense and inconvenience of attending the examination. Instead of holding the whole of the examination in London, would it not be possible to arrange for the *written* examination to be held at local centres, as in the second-class examination, and then for the *successful* candidates only to be summoned to London for the lecture test?

In this connection I would also suggest that a failure in the lecture test should not entail re-examination in the written test until the expiration of a time-limit of, say, three years.

Lastly, I offer the suggestion that a practical test on some of the following should be included in the examination:—

1. The judging of honey and wax.

2. The identification and differentiation of foul, black, and pickled brood.

3. The identification of the pollen-grains of the principal honey-flowers under the microscope as a certain means of deciding the sources of honey.

4. Some general knowledge of the order Hymenoptera, or at least of the family Apidæ, with knowledge of such of the order Diptera as may be mistaken for bees.

I make this last inclusion advisedly, having recently heard of a case where a man who writes himself "Expert" (he is third class, of course) pointed out a bevy of *drone-flies* hovering round a rose-bay plant as *drones*, and carefully explained that *a young queen must recently have settled on the plant, which attracted the drones*. The fact that the insects he called bees had only *two* wings was of no moment. He still thinks they were drones.

I mention this little incident, Messrs. Editors, to show that there is a real danger of bringing the *expert diploma* into ridicule by lowering the standard of knowledge, either theoretical or practical, necessary to gain it.

May I suggest that you should leave this subject open for a few weeks that all interested may give their views before you take the matter in hand either in the editor's chair or in the council chamber?—THOMAS JOHNSON, Seamon's Moss School, Altrincham.

FIRST-CLASS CERTIFICATES.

THE IMPROMPTU LECTURE.

[6749.] Two of your correspondents (6732, page 224, and 6744, page 235) object to the stringency of the examination with respect to the lecture, and desire easier conditions. If a thesis were required, as for some university honours, hours, or even weeks or months, may not be too long for preparing it, with all the aids to original thought that books could give. But one would think that, though the subjects set for lectures would not be elementary in character, they would at any rate be such as a first-class expert should already have mastered, and such as he must have mastered to get through the written examination. The requirement therefore resolves itself into a test of ability to instruct a suitable audience in what he knows, and this seems so evidently to be the object of the B.B.K.A. that to materially alter the method of obtaining it would frustrate its very purpose. When reminded of the difficulty the clergy would have if similarly tested in preaching, one is almost irreverently tempted to ask if they can all preach now, with preparation for the occasion and with the choice of subject vested in themselves. But we must not be flippant in your businesslike weekly, yet to ask for this part of the examination to be conducted on bee-tent lines seems really almost a joke. Will you excuse a sample of bee-tent work, from actual engagement this summer?

Questioner: "Is it a good plan to keep the queen in the hive by perforated zinc, so as not to lose her by swarming?"

Lecturer: "The plan is perfect if you wish your bees to be suffocated."

Questioner (ruefully): "That's just what happened to mine."

I have known some of the best of jokes in the *viva voce* examination of candidates for the first-class certificate, but not quite of this sort. Thirty minutes (suggested for clerical candidates in preaching) is a good allowance for the Examining Council to give to each of nine or ten candidates. It would be interesting to behold the Council if the candidates had to "prepare their lectures on paper under the eyes of the Examining Council and then deliver them."

One or two points raised may be worth consideration, though very difficult to meet. It is expensive to candidates to go to London for the examination; but the necessity would be the same for the lecture and *viva voce* work if the written work were done under local superintendents. Much more severe upon the candidates is the demand for them to be at their best at the Council table after the brain-work involved in the two papers set

for the day. But hard work isn't easy.—S. JORDAN, Bishopston, Bristol, June 15.

[6750.] Two letters on the above have appeared in the columns of the B.B.J., and as you invite opinions I should like, as a bee-keeper of long experience and a second-class expert, to offer a few remarks on the subject. Let me say at the outset that, unlike your previous correspondents (6732, page 224, and 6744, page 235), I do not think the examinations are too difficult in any way, excepting that I agree with Mr. Coltman that the paper work in first-class examinations should be taken in candidates' own counties, as in the second class. Those who fail in this part need not then be put to unnecessary expense going up to London to give their lecture. This is quite a serious item to Northern candidates, and a bar to some who would try if expense were less. There seems to be an objection to the little lecture which is "sprung upon" candidates at the final test. I have been told by first-class experts that this is not so difficult by a long way as some of the other work. "Medico" says: "The lecture under its present conditions is keeping a great many *first-class* men out." I doubt this. *First class* they cannot be, even if their knowledge is perfect, so long as they cannot scatter some of it about without sufficient notice to enable them to call it up. The second class sufficiently covers their case. The test lecture is, I take it, simply what any expert might be called on to give at a bee-tent or other lecture. He is asked questions which take some time to answer, and he does not have five minutes to think over what his answer is to be. Your Leicestershire correspondent refers to the Church. But there is no analogy between that and bee-keeping; and because we have "duffers" in the Church, it is no reason why we should open to them the ranks of first-class bee-experts.

Two points in the examinations I would like to touch on are:—1. The test of knowledge of foul brood. 2. The necessity for a thorough practical experience in bee-management. With regard to the former, I have come across more than one expert who could tell one all there is to tell about the pest, and yet, if a comb with foul-broody cells were held up before their eyes, could not detect it, unless the case was very bad indeed. How can it be otherwise if the examiner does not get them among foul-broody combs in the third-class examination? They can make him believe they are familiar with the disease; they glibly repeat "by the book" the stereotyped replies to questions as to appearance of the disease, its prevention, treatment, &c. The examiner is satisfied and recommends for a pass, while his man may be a perfect stranger to foul brood in any of its stages. The remedy for this is quite apparent. Let the examiner have practical demonstration of candidates' knowledge among suitable combs. The expert who has no knowledge, or only that little which is dangerous, of the appearance of foul brood, but is armed with a certificate, goes forth either to denounce every suspicious cell as foul brood, or else entirely to ignore its presence in many hives. Both are serious mistakes too often made. My second point—the necessity for practical experience in general management—is equally important with that of a knowledge of foul brood. However good a candidate may be theoretically, he should not be given a certificate unless he has owned and worked some sort of an apiary for half a dozen years at least. One cannot learn to work one's own bees to the best advantage without considerable experience, and much more experience is required to enable one to give good advice on the management of bees of which there has been no previous knowledge. It is to my mind little short of an insult to the craft to find those who have never owned a stock of bees holding all three certificates, and trying to teach old hands their business. It is impossible such experts can be good in practice, and it is a great mistake that they should be provided with certificates to qualify them to practise on, and learn by experience from handling, other people's bees—always likely to be costly to the innocent owners of the bees, and damaging to the reputation of the profession generally.—G. W. AVERY, Armathwaite, Cumberland, June 15.

EXAMS. FOR B.B.K.A. CERTIFICATES

ANOTHER MEDICAL MAN'S VIEWS.

[6751.] With regard to the correspondence in your columns on the above subject last week, will you allow me to say that I do not think that either Mr. Coltman or "Medico" views the matter in quite the right light? They both bemoan (1) the fact that candidates who have passed the "paper" part of the examination, but have failed in the "lecture," are required to satisfy the examiners in the former part again; (2) the rule that candidates are given five minutes' notice of some subject connected with apiculture, and are then called upon to deliver a lecture on the same of fifteen minutes' duration (not thirty); (3) the general severity or "stiffness" of the test.

Now, with regard to No. 1., "Medico," at

least, if not Mr. Coltman, must be well aware that in all high-class scientific and professional examinations it is the invariable rule that candidates must pass in all the subjects at one and the same time. The reasons for this are obvious. 2. It is difficult to understand why this condition should be objected to. Apiculture is not such an enormously wide subject that a candidate for first-class expert credentials cannot reasonably be expected to show a grasp of the whole field. Such an expert should most certainly be able to deliver a fifteen-minute lecture on any branch in a lucid and descriptive manner, and the B.B.K.A. will, I am sure, be wise in continuing to insist on this admirable, reasonable, and necessary requirement. 3. As to the severity of the examination, it will surely be a great pity to let down the standard of knowledge and mastership required. Apiculture is going ahead; every day more of the educated classes and those possessing scientific attainments are becoming interested in and taking up its pursuit. He who aspires to the first-class certificate should be a bee-master in every sense of the word. He should be a "professor" to whom educated persons can apply for information and advice, and from whom they will receive explanations and instruction scientifically accurate, practically sound, and grammatically correct. To such a man the fluent delivery of a fifteen-minute lecture on any branch of our subject should come as easily as the manipulation of a standard frame without gloves.

The B.B.K.A. very wisely grants certificates of three grades. That of the third class is easily obtainable, and rightly so, by anyone possessing a fair general knowledge of up-to-date bee-keeping and a moderate amount of manipulative skill. To obtain the second requires not only an extensive general knowledge of apiculture in most of its branches, but in addition a fair general education, and again, I think, rightly so. The first-class is admittedly a *severe* test, and by all means let it be maintained as such. Let the B.B.K.A. look on it as an "honours" examination, a coveted distinction not to be easily won; a class admission to the ranks of which is to be jealously guarded, and only granted to those who are really learned and accomplished in apiculture, and can prove themselves worthy to be teachers thereof. To prevent misunderstanding, I would add that I hold but the humble third-class certificate. I enclose my card, and beg to sign—ANOTHER MEDICO, Bedford, June 15.

*** *Several other letters on above subject are held over for lack of space till next week.*

THE ISLE OF WIGHT BEE-TROUBLE.

[6752.] The gravity of the situation in the almost complete clearance of stocks in the Isle of Wight is sufficient to warrant me in venturing a few remarks of a practical nature thereon. While personally not sharing in the general scare which the attack has created (in the southern districts, at any rate), yet if some information on the history of the stocks affected could be given through your columns by those who have suffered so severely it would be a considerable help, and possibly some safeguard, to those who have not at present to mourn over empty hives. Your editorial remarks in the B.B.J. of June 6, for which I am sure all readers were heartily thankful, suggest the "feeding" as the chief cause of the trouble, and in view of that, perhaps it is not too much to ask some who have the time to spare to give some short account of the management of the stocks which have "gone under." This is not begging any confession of mismanagement, for we have it on the word of an outside authority that the best-managed stocks have succumbed first, but rather that the information should show to what extent "feeding" was resorted to in packing down for winter; also, what kind of food was supplied, and how prepared? and, further, how much feeding was done in the spring? If replies to such questions as these should at all point in one direction, a solution might reasonably be expected, and warning taken from this painful experience. If this should spread, the question asked recently—"Will bee-keeping cease to pay?"—could be quickly answered with a single syllable; but we do not anticipate any such calamity as that. The thought occurred to me when I first heard of it that perhaps the island was bearing some noxious flower in greater profusion this spring than usual, but there seems to be no reason to retain that idea.

May I second the happy suggestion of your correspondent Mr. L. S. Crawshaw (on page 237), that some practical sympathy be shown towards brother bee-keepers by offering two swarms to some loser who still loves the bees?—H. D. D., Beecroft, Basingstoke, June 15.

THE SEASON IN HAMPSHIRE.

[6753.] About this time last year I sent you a glowing account of how the bees were rolling in for us in Hants, and it will be remembered how disappointing the general harvest was. Although this year the same breadth of forage obtains, many acres of sainfoin close home, and clover blooming galore—well, I am not going to paint such a lovely picture this time; but we are every day hoping that

the morrow will bring us the much-needed sunshine, and we are doubting not that it *will* come, all in good time. Possibly before these words are in print the busy bees will perhaps be keeping bee-men busy enough, and so we go on hoping. Stocks are in fine condition generally. I do not remember a time when mine were so ready for work; every hive seems only waiting the word to "go."

The I.O.W. Bee-disease.—I have read with much interest Mr. Silver's notes on this scourge in your issue of June 6, the more so because of having lately been down amongst it, and seen with my own eyes the rows of empty hives. During the few days I was in the island I visited Ryde, and saw there two stocks of bees the owner of which said he believed they were the only two colonies left alive within a two or three mile radius. I then visited Cowes, and found that this corner seems to be untouched by the "plague." Next came Thorley, near Yarmouth, and there I saw what a few stocks Mr. Cooper had left; I think he had three, spring count. I learned that in a two-mile radius, within which 150 stocks were alive and well three years ago, five remain to tell the tale!

The infected hives have a distinctly "sour" smell, and the honey I tasted seemed tainted with the same stuff.

According to Mr. Silver (6731, page 223), about 90 per cent. of the bees have died out. Our county secretary (Mr. Bellairs), in his annual report, modestly put it at 50 per cent.! It shows plainly that there is something in the island which is just now terribly fatal to bee-life, and brother bee-keepers there will no doubt have our full sympathy. Mr. Crawshaw (page 237) throws out a kindly suggestion that we should show our sympathy in a practical manner. It is very certain that those bee-men who doggedly continue the struggle, notwithstanding the difficulties, cannot do it without certain financial loss, and up to now there seems to be no remedy suggested beyond the bonfire! I would suggest that a subscription list be opened at the B.B.J. office for the purpose of carrying on the work of investigation. The scourge has been in evidence for three or four years, and does not seem to abate one whit, whether it be spring, summer, autumn, or winter, and it seems almost criminal for us to sit and watch them go under, and no raft pushed out to help. I send name for reference.—Hants Bee, June 14.

THE CURSE OF SWARMING.

[6754.] "Out of the fulness of the heart the mouth speaketh." Every beginner has, I suppose, to go through what has been called by one of our local bee-keepers "the bugbear of swarming," but who, when rallied on his equanimity, replied, "Well, if they swarm, I comfort myself with the thought that I have a nice young queen for next year."

There must be so many similar cases to mine that I venture to recount the facts: Having a small garden, I wished to keep three or four hives, and to limit my stocks to that number, getting as much section honey as possible. I therefore bought a swarm last June, and put it into a well-made but odd-sized hive having starters in the frames. I admit these were two mistakes to begin with. At the end of the year I drove three skeps of bees for a cottager, and united them in a second hive, with all the modern improvements except a non-swarming chamber. Both these stocks I fed in the autumn and again in spring, and as they were strong by May I put on a rack of sections at the beginning of the month, and a second a fortnight later, and opened the entrances to their widest extent.

What was the result? In spite of the bees taking immediately to the supers, and in one case nearly sealing over a dozen sections, I have had two swarms, and in addition a large "flight" from the first hive. My sections are practically deserted, and by the end of the season I shall have to drive the swarms from their present skeps, and obtain a lot of inferior extracted honey which I do not want. If any experienced apiculturist would kindly write an article for the B.B.J. dealing concisely and practically with the question of how to limit one's apiary by preventing swarming (no offence meant to our excellent "Guide Book"), I am sure that it would be read with the greatest interest by beginners like myself.—F. D. N., Framlingham, June 17.

[No one will be more pleased than ourselves to have useful ideas—helpful to beginners—from practical bee-keepers; but, being able to prevent swarming ourselves (so far as prevention is possible) by the methods given in the book referred to, we shall await with interest any further hints others may have to offer.—Eds.]

ZINC-COVERED HIVE-ROOFS IN CEYLON.

[6755.] There was a discussion some time ago in the B.B.J. on the subject of zinc covers for hive-roofs. It may interest some of your readers to hear my experience of these here in Ceylon—at 6 deg. north of the equator and 6,200 ft. elevation. Our hot-weather season is just ending, so that I have given them a good test.

Our nights are cold, but as we are more

than a mile "up in the clouds" our temperatures at noon in full sunlight are excessively high. My brood-chambers are double-bodied, with an inch air-space all round, and I keep on the lifts, covering thickly with flannel and sacking. The roofs, as I say, are zinc-covered and painted white.

I have never known my bees distressed by the heat, even out in the full glare of the sun: and I have frequently examined a thermometer kept in the brood-chamber, but *outside* a dummy board, and have never found it register above 85 deg. Fahr. Usually it is at 75 deg. Fahr.

I therefore think this clearly proves that a zinc roof painted white is perfectly safe, and I would always have it for the sake of dryness. Unpainted, however, out here it is the very devil! I knew a stock that had perforce to clear out bodily from a hive with an unpainted zinc roof, and I do not wonder at it. I could not bear my hand on it!

Thanks for your information *re* hybridising European and Indian bees. I think you are wrong as to the impossibility of crossing. I confess, however, that Cyprian queens raised by *A. Indica* do not hatch out. Probably the *A. Indica* royal jelly is too thin. But there is no reason why the *A. Indica* should not be enlarged so as to mate easily with the European bee.

Perhaps I am peculiar, but I recognise no division between genera and varieties. "Species" I regard as a myth!—H. CAMPBELL, Yaltâ, Nuwara Eliya, Ceylon, May 28.

THE OUTLOOK IN CHESHIRE.

[6756.] Never do I remember such an absolutely bad time for bees as experienced the past few weeks in this district in my capacity as expert to the Cheshire B.K.A. I have been vainly trying to complete my tour. When I shall have finished goodness knows. I have found many stocks gradually starving, among them some of my own. I am now feeding some twenty lots, and am of the opinion that almost every stock in this county would benefit by feeding for the next ten days. To many it is a matter of life or death. — ERNEST PIDDUCK, Expert Cheshire B.K.A., Alsager, June 15.

RENEWING BROOD-COMBS.

[6757.] Your correspondent Mr. Avery (6743, page 235) is apparently labouring under a mistake as regards myself. I do not consider that I am in any way superior to any other good bee-keeper, but may nevertheless consider some of my methods somewhat better than others. It is simply a matter of opinion. In a district affected with foul brood the renewal of combs is absolutely essential, in addition to other precautions. Such renewal is not very costly, as the wax from the old combs provides plenty of foundation. I do not greatly object to legislation, so long as I am not compelled to destroy the wax and the honey.—W. J. FARMER, Redruth, June 17.

MAY RAINFALL.

Total fall, 3·40 in.

Heaviest fall in 24 hours, ·84 in. on 6th.

Rain fell on 18 days.

W. HEAD, Brilley, Herefordshire.

Queries and Replies.

[3529.] *Wired Foundation Breaking Down.*—Will you kindly inform me how to proceed under the following conditions? I bought two swarms of bees at the end of May, and I find, on examination, that owing to the foundation having broken down bees have built it together, so that the frames are joined together by wax, and cannot be manipulated or lifted out at all. I might say I gave them whole sheets of foundation, and wired by the most up-to-date method. Name sent for reference.—LITTLE ILFORD, Essex.

REPLY.—The mishap you describe is probably owing to faulty foundation, unless it has been badly wired in the frame. The method of wiring shown in sketch is the best we know of, so that faulty wiring cannot well be blamed for the breakdown. Some of the foundation sent out is altogether too soft to stand the weight of brood-laden combs, and this is the too frequent cause of it tumbling down, as stated. If the frames joined together can be lifted out *en bloc* the combs can be cut apart, but it would need some experience to fix the broken combs up properly.

[3530.] *Swarms from Supered Hives.*—I have three strong stocks which I transferred from skeps in April. I put the supers on three weeks ago, but the bees have not taken possession. On June 13 a swarm issued from one of the hives and settled on a rose-bush about 100 yds. from the hive. I shook them into a skep and left it on the ground; ten minutes later I found it empty and the bees returning to their hive. I could see no queen on the combs, or find any trace of a dead one on the ground outside. 1. Do you think this is a spring-flight? Was the queen killed or damaged? 2. Are the bees likely to swarm out again, seeing that they have plenty of room? 3. Is it usual for bees to be so late in taking possession of racks of sections? The weather has been fair, and we have had many fine days for honey gathering. I greatly appreciate your "Queries" column in the B.B.J. Please reply to—AMATEUR, Canterbury, June 15.

REPLY.—1. It is probable that the queen has met with a mishap, or has fallen to the ground and been lost. 2. If queen is lost there need be very little fear of the bees swarming again this year. 3. The failure to enter sections in most cases this year is attributable to adverse weather.

[3531.] *Some Swarming Experiences.*—I should be more than grateful if you would give me a little advice on the following matter, so as to prevent any further occurrence of the kind:—I had

at the beginning of May three stocks of bees, numbered 1, 2, 3, and two hives, numbered 4 and 5, ready for swarms. On May 23 a swarm issued from No. 2, which I unfortunately lost; next day No. 1 swarmed about 10 a.m., and was successfully hived in No. 4. I may say the rain came down in sheets till 9.30, and it again rained heavily till about 3, when at 3.45 No. 3 swarmed, and was hived in No. 5. At the same time I took six frames of brood from No. 1 (an eighteen-frame hive) and two from No. 3 (a ten-frame hive), and gave four frames to each of the swarms, of course filling in the vacant spaces of Nos. 1 and 3 with full sheets of foundation. But in giving the frames of brood to the swarms I unfortunately overlooked the fact that on one comb there were three queen-cells. The result was that a swarm issued from it on May 31, which I promptly returned. I should mention the fact that it rained heavily on that day excepting for about half an hour, and in that half-hour we had sunshine, and the bees must needs swarm out; but, curiously enough, the short spell of sunshine happened about 3 p.m., and during the rain the bees were working quite strongly. A bee-keeper of thirty-five years' experience told me he had never heard of anything like it. What I wish to know is: How can my bees be kept from swarming? They seem to be a most prolific strain: one stock covered fourteen frames at the end of May, and I hope to get the advantage of twenty-eight acres of clover which my father is leaving for seed not a quarter of a mile away. I hope to receive a good harvest from this if I can only prevent swarming and get the bees into the sections. I followed the advice given in the "Guide Book" by cutting out all queen-cells, except one, that I could see, but as the frames were so crowded with bees I may have overlooked one. My trouble is that the bees will not at present go to the racks, though baited with six half-filled sections. In this district the sun has rarely shown its face for a full fortnight, and this may be stopping them. With regard to swarming, after my experience can anyone say that bees will not swarm in the rain? —B. J. M., Cringleford.

Reply.—There is no absolutely certain method of swarm-prevention. The most we can say is that experienced bee-keepers are able, by carrying out the directions given in the "Guide Book," to keep their colonies from emigrating simply by giving room in advance, and by carefully watching for such hot days as may require their hives to be raised from their floor-boards on all sides in order to give ventilation and air to the distressed bees. There are times, no doubt, when no amount of care will stop a swarming mania, but these are very rare indeed.

[3532.] *Preserving Shallow-frame Store-combs.*—I should be glad to know how many seasons can one use shallow frames? I mean, after extracting for the first time, how many times again would one use them with the old comb, and when ought one to destroy them? I have got a lot of old ones, and I do not know whether to use them again.—G. W. J., Cornwall.

Reply.—If carefully stored away each autumn and kept free from the ravages of wax-moth, store-combs may be used for ten or a dozen years and more. They should, however, be fumigated with sulphur before storing away if the wax-moth is at all troublesome. We some years ago described a method of storing shallow-frames in a home-made contrivance, by means of which the combs can be very easily fumigated. Should you care to follow this plan we might reprint the particulars, with illustration, in a future issue of the B.B.J.

Echoes from the Hives.

St. Austell, Cornwall, June 14.—I gave ten hives 1 lb. of syrup each, and to four others a filled section of last year's honey, having found, after examination, that they were all on the verge of starvation. The present is the worst season for our district in all my twenty years' experience of bee-keeping. Later: June 17.—To-day has been heard the first merry hum of the bees in glorious sunshine. May it continue.—J. M. Best.

Jordanstown, June 15.—As a sample of the lateness of season, I may mention that yesterday was the first day on which drones were observed on the wing in apiary of ten stocks.—R. T., co. Antrim.

THE "LIVING" SIGN-POST SWARMING.

The well-known sign-post at Grantham, Lincs., is doing well this year, as seen by the following paragraph now going the round of the daily Press:—

A "LIVING" SIGN-POST.

"At Grantham a remarkable sight has been witnessed outside a public-house known as the Bee-hive Inn. Over the doorway is a hive in which bees store their honey, and it is believed to be the only 'living' public-house sign in England. The sunshine of Saturday had a surprising effect, and the occupants of the hive were swarming, much to the discomfort of those who desired to enter the inn to quench their thirst. Thousands of bees were flying about, and a large crowd of persons stood at a respectful distance, watching the landlord collecting them in another hive by the side of the footpath near the door."

PRESS CUTTING.

AN AMERICAN BEE STORY.

The latest bee story comes from an American bee-keeper, who dates from Minneapolis. It is full of freshness, but rather melancholy. Here it is: "An arc light, emitting a powerful illumination, was put up last spring near my bee-hive. The night it was put up my bees, mistaking its light for daylight, worked like beavers, though dead tired. When dawn came, and the light was extinguished, the bees, quite worn out, turned in; but, lo, in a few minutes the sun was shining, and out the poor, bedraggled little creatures hurried again, for no bee will consent to pass the daylight hours in idleness. They got through the day somehow, and at dusk, after thirty-six hours of unceasing toil, they once more turned in. Alas, the arc light began to hiss and glow again, and the poor bees, worn to shadows, bent, pallid, staggered forth for another round of labour. By the end of the week all the bees were dead of overwork."—*Daily News.*

Bee Shows to Come.

June 25 to 29, at Lincoln (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Entries closed.

July 17 and 18, at Burton-on-Trent.—Honey Show of the Staffordshire B.K.A. Special prizes, including five Open Classes. Prizes, 20s., 10s., and 5s. Single 1 lb. Jar and Section (entry free). Schedules from Joseph Tinsley, Expert, Chebsey, near Stafford **Entries still open.**

July 24, at Ashby-de-la-Zouch, Leicestershire.—Show of Bees, Honey, and Appliances, in connection with Annual Flower Show. Three Open Classes, two Local Classes, and one L.B.K.A. Bee Demonstrations, Lectures, &c. Sec., J. H. Dunmore, Alandale, Ashby-de-la-Zouch. **Entries close July 22.**

July 24 and 25, at Cardiff.—Annual Show of the Glamorgan B.K.A., in connection with that of the Cardiff and County Horticultural Society. Honey, Wax, Appliances, &c. Classes for members, novices. Five open classes, with prizes for Sections and Extracted Honey (light), 21s., and Bee Appliances, 40s. and 20s. Entry fee for one or more of the open classes to non-members, 2s. 6d. Schedules from Wm. Richards, Hon. Secretary, The Red House, Gabalfa, Cardiff. **Entries close July 20.**

July 25, at Tiverton.—Annual Show of the Devon B.K.A., in conjunction with the Tiverton and District Agricultural Association. Open classes. Schedules from R. W. Furse, Hon. Sec., Woodbury, R.S.O. **Entries close July 9.**

July 31, at Henbury, near Bristol.—Annual show of Honey and Wax of the Henbury District Bee-keeper's Association, in connection with Horticultural Society's Exhibition. Seven open (three free) classes, good prizes. Bee Demonstrations. Schedules from Hon. Sec., F. E. May, "Bellasis," Stoke Park, Westbury-ou-Trym, Bristol. **Entries close July 24.**

August 5 (Bank Holiday).—Annual Honey Show of North Norfolk B.K.A., in connection with the Melton Constable Horticultural Association. Schedules from C. J. Cooke, Edgefield, Melton Constable. **Entries close July 27.**

August 8, at Abingdon Park, Northampton.—Honey Show of the Northants B.K.A. Two Special Classes, including one for single 1 lb. Jar Honey. Entry free. Prizes, 20s., 10s., 7s. 6d., and 2s. 6d. Schedules from R. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 3.**

August 8 to 10, at Barnsley.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. Schedules and form of entry from John Maughan, Secretary, Blake-street, York. **Entries close June 29.**

August 21, at Lancaster.—Show of Honey, &c., in connection with the Lancaster Agricultural Society's Annual Show. Open Classes for Extracted and Comb Honey, also Beeswax and Produce. Challenge Cup value £5 5s., also six silver and bronze Medals, and other Specials. Schedules from Thos. Armitstead and Son, Auctioneers, Lancaster. **Entries close August 7.**

August 21, at Radstock.—Annual Show of the Somersetshire B.K.A., in connection with the Radstock Horticultural Association. Seven open and two free classes; good prizes. Schedules from Herbert J. Moore (Show Secretary), Foxcote, Radstock. **Entries close August 14.**

August 21 and 22, at Shrewsbury.—Shropshire B.K.A. Annual Show, in connection with the Shropshire Horticultural Societies' Great Floral Fête, in the Quarry, Shrewsbury. Nine Open classes for Honey and Wax. Free entry for single 1 lb. jar and single 1 lb. section. Schedules from S. Cartwright, Hon. Sec., Shawbury, Shrewsbury. **Entries close August 9.**

August 28, at Chester (Cheshire Agricultural Society's Show).—Bee and Honey Department, under management of the C.B.K.A. Open classes for Hives, Sections, and Extracted Honey. Increased prizes. Members' classes, District class. Special prizes offered by Chester Tradesmen's Association. Schedules from T. A. Beckett, St. Werburgh's-chambers, Chester. **Entries close August 7.** Post entries at double fees to **August 14.**

August 28 and 29, at Rugby (Warwickshire B.K.A.).—Show of Honey and Bee Appliances, in connection with the Annual Show of the Warwickshire Agricultural Society Schedules from Jas. N. Bower, Hon. Sec. Warwicks. B.K.A., Knowle.

Sept. 25, at Altrincham.—Honey Show, in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom: For Best Hive, Observatory Hive, with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester: Classes for rTophy of Honey, Amateur-Built Hive, two Shallow Bars, Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low Entrance Fees. Schedules from Mr. J. Herbert Hall, 2, Dunham-road, Altrincham. **Entries close Sept. 7.**

Notices to Correspondents.

QUEEN BEE (Yorks.)—*Queen Cast Out.*—Bee sent is a native queen, apparently fully matured, but bearing no indications of being "aged." You should examine the stock to see if its queen is missing. The one found killed may be from another hive attempting to enter the one in question.

E. TUSTIN (Cheltenham).—*Mustard and Rape as Bee-forage.*—Both plants named yield honey freely. That from mustard is white in colour and good in quality, but granulates very soon after removal from hives.

G. T. (Pembroke).—*Charge for Expert Work.*—The usual charge made by manufacturers who employ an expert is 7s. 6d. per day and travelling expenses, so that you may estimate the value of time required to get through the task in hand. Some extra fee is no doubt charged if the nature of the work is connected with diseased colonies.

Suspected Combs.

W. O. JONES (Carleon).—Comb sent shows foul brood in the incipient stage.

D. M. P. (Greenock).—Bad case of foul brood of very pronounced type.

F. W. (Saltash).—Comb shows a bad case of foul brood. Don't risk spoiling the new "W.B.C." hive by stocking it with the bees of a badly-diseased colony. Use a makeshift for the bees in question, and only put them in the new hive if cured.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

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SITUATION WANTED by handy man; assist with Bees, Garden, understand Making Appliances. Certificated.—SHORT, Great Barr, near Birmingham. a 7

HEALTHY DRIVEN BEES (no foul brood in district), ready end of July, 5s. per lot, including new Skep. Cash with order.—DAVIDSON, Melbury Abbas, Shaftesbury. a 6

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TRY a Swarm on Foundation fixed by "Palmer" device; cannot stretch. Sample set, P.O. 1s. 1d., easy to make.—W. PALMER, c/o A. Simpson, Gate House, Maghull, Liverpool. z 99

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STRONG Healthy Swarms, 8s. each, or 2s. 3d. lb.; immediate delivery, cash with order.—WHITTING, Manea. a 4

EXCHANGE Prize Rouen Duck and Drake (laying), also 8 small ones, eggs from same, for White Leghorns, or Bees on Frames.—T. C. HOLMES, Nursery, Powis Castle, Welshpool, Wales. z 98

HONEY.—White Clover Honey, in any quantity, in bottles or by the cwt.. in cans.—Prices on application to H. MILES, Van Farm, Gomeldon, Salisbury. z 96

THREE-FRAME NUCLEI, 1907 Laying Queen, 10s. 6d.; or Stocks on Six Frames, 18s.—HEMMING BROS., Standlake, Witney. a 11

OWING TO REMOVAL, 3 Stocks of Bees, complete in Hives, 2 Hives, and Appliances.—TANKARD, Kerry-lane, Horsforth, Leeds. a 12

BRICE'S 1907 HYBRID QUEENS, tested, 5s. 6d.; Virgins, 3s.; safe arrival guaranteed.—HENRY BRICE, Brigstock-road, Thornton Heath. a 13

SWARMS, Nuclei (Sladen's strain), 12s. 6d.; Virgins, 1s. 9d.; Fertiles (soon), 5s. 6d.; book now.—PAUL, Salisbury-road, Bexley. z 95

TILLEY'S PATENT ("Won't Leak"), 2 lb. Sections, may be used with the ordinary Sections; sample, with particulars, 6d.—M. H. TILLEY, Bee Farm, Dorchester. a 10

NATURAL SWARMS of my hardy prolific strain English Bees, not less than 4 lb., 12s. 6d.; 5 lb., 15s.; 6 lb., 18s.; packages to be returned, guaranteed healthy and safe arrival. Orders executed in rotation.—WHITING, Apiaries, Hundon, Clare, Suffolk. a 2

PRIME SWARM, from 10-Frame Stock Italians, 12s. 6d.; also 3-Frame Nuclei, with 1907 Queen, 10s. 6d.; boxes free.—JUSTICE, Alvaston Hall Gardens, Nantwich. z 94

SWARMS FOR SALE, 2s. 6d. per lb.; boxes, 1s. each, returnable.—J. ORMAN, Moat House, Ivychurch, Kent. a 14

30 STOCKS CARNIOLAN BLACK HYBRIDS for sale, 8 Frames, after Abbott's pattern, 6 of Brood, 1906 Queen, Combs from full sheets, wired. Free on rail, cases returnable, 18s. each; cases free, £1 each.—SHAW, Eden House, Sedgefield, co. Durham. a 15

SWARMS.—A few more, 2s. 6d. lb.; Queens, fine tested, 1907, 4s.; wing clipped if so ordered.—DAVIDSON, Beecroft, Basingstoke. a 5

STRONG HEALTHY STOCK CARNIOLAN BEES, headed by 1906 imported Queen, in Taylor's "Twentieth Century" Hive, condition perfect, price 40s.; strong Stock of British, in "Twentieth Century" Hive, price 37s. 6d. Approval.—PIDDUCK, Cheshire Association Expert, Sunnyside, Alsager, Ches. a 9

SUPERS.—Boxes of drawn-out Shallow Combs, perfect condition, 6s. each; Wax Extractor, cost 10s. 6d., price 7s. 6d., perfect condition; Wax Mould, cost 3s. 6d., price 2s. 6d.—PIDDUCK, Cheshire Association Expert, Sunnyside, Alsager, Ches. a 8

WANTED, GOOD PIANO; part exchange Stocks and Swarms of Bees.—G., "British Bee Journal" Office. z 86

HEALTHY NATURAL SWARMS, 10s. 6d. and 12s. 6d.; 3-Frame Nuclei, 10s. 6d.; Stocks, on wired combs, from 20s. each.—R. CARTER, Chartridge Green Farm, Chesham, Bucks z 92

NEW HONEY, good quality, bulk or jars; sample 2d.—CHARTER, Tattingstone, Ipswich. z 85

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STRONG NATURAL SWARMS, 1906 Queen, 12s. 6d., 13s. 6d.; 3-Frame Nuclei, 1907 fertile Queen, 12s. 6d.; Stocks, in Skeps, 1906-07 Queen, 12s. 6d., 13s. 6d.; Stocks, on ten Standard wired Frames, 25s.; fertile Queens, 3s. 6d.—W. WOODS, Normandy, Guildford. z 87

WANTED, SITUATION IN AN APIARY, for Summer only.—D. VARTY, Etwall, Derby. z 83

AN ENGLISH LADY AND GENTLEMAN, with twelve years' recent experience in advanced Bee-keeping in the United States, whose apiary is near Cambridge, are open to receive a Lady or Gentleman Pupil on moderate terms; delightful country home.—Address, "MINNESOTA," care of Titmarsh, Advertisement Agent, Linton, Cambs. z 91

HAVING DISPOSED OF BEES, quantity Shallow Combs for sale, 5s. 6d. dozen.—GARNER, Dyke, Bourne.

BEE-KEEPERS' NECESSITIES.—British Weed Foundation, Brood, 2s. 5d. lb.; Super, 2s. 9d.; 5 lb. 1d. lb. off, 10 lb. 2d., postage 4d. first lb., 1d. lb. after; Hives, 7s. 6d., 18 by 16, for 10 Standard Frames, double walled back and front, 9 in. lift, telescope roof and porch; also Hives, ditto, 18 by 18, with dummy, sliding entrance, 9s. 6d.; self-adjusting Frames, 1s. 2d. doz., 8s. 100; "W.B.C." ends, 2s. 6d. gross, post. 4d.; Split-top Sections, 2s. 9d. 100; Section Racks, 2s. 6d.; Shallow Frame Crates, complete, 3s. Cash with order.—COX, manufacturer, Smallbrook-street, Birmingham. y 28

31ST YEAR.—Three Frame "Nuclei," Bees, Brood, and prolific Queen, 12s. 6d.; case, 3s., or returned carriage paid.—ALSFORD, Expert, Haydon, Sherborne. z 73

FOR SALE, 8 Hives of Bees, Bar Frame Hives.—JOHN BOWES, Appleton-le-Street, Malton. z 68

2 STOCKS BEES, in "W.B.C." Hives, and 5 empty Hives, the lot £5; 2 "W.B.C." Section Racks, 7s.—J. BROOKFIELD, 108, Stamford-road, Birkdale, Southport. z 59

"DOOLITTLE" STRAIN GOLDEN QUEENS, Virgins 1s. 6d., Fertiles 5s.; all orders executed in rotation; book now, stating date wanted. Customer writes: "Your Queens bead the best colonies I have."—D. TAYLOR, Ilminster. z 42

PROTECT YOUR FRUIT.—Tanned Garden Netting, only best quality supplied. Order promptly, as nets are scarce and must be dearer. 25 yds. by 8 yds., 50 yds. by 4 yds., and 100 yds. by 2 yds., 9s. each; add ten per cent. for other sizes.—L. WREN AND SON, 139, High-street, Lowestoft. y 39

GILLIES MARVELLOUS CONTROL-CLOTH, in vest pocket case, with clearly printed instructions for manipulation of Bees; two delivered anywhere, 7d. stamps.—43, Dawson-street, Dublin. Agents wanted. y 61

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester.

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

WANTED, for Scientific purposes, QUEEN BEES and WORKER HORNETS. Will brother bee-keepers oblige?—HERROD, Apiary, Luton.

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GOLDEN-ALL-OVER QUEENS, 6s. 6d. to £1.—E. L. PRATT, Swarthmore, Pa., U.S.A. Handsome 24pp. brochure free.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held on Thursday, the 20th inst., at 105, Jermyn Street, S.W., Mr. F. B. White being voted to the chair. There were also present Messrs. W. B. Carr, E. Garcke, E. Walker, Miss Hall, and the Secretary. Letters expressing regret at enforced absence were read from Mr. T. W. Cowan, Messrs. T. Bevan, W. H. Harris, H. Jonas, J. B. Lamb, A. G. Pugh, W. F. Reid, and T. I. Weston.

The minutes of the previous meeting were read and confirmed.

Three new members were elected, viz.: Mrs. Chapman, Abbey Farm, Waltham Abbey; Rev. W. H. Collings, The Manse, Harlington, Middlesex; Miss E. Owen, Fitzjohn's Avenue, Hampstead.

Reports upon examinations were considered, and it was resolved to award first-class certificates to Miss G. Price, Miss A. M. Sopper, Mr. T. Johnson, and Mr. R. G. Tabor. Also a third-class certificate to Mr. Albert Bennett.

The finance committee's report was presented by Mr. Garcke, and formally adopted.

Arrangements were made for examinations in Kent, Lincolnshire, Norfolk, Nottinghamshire, Somersetshire, Warwickshire, Worcestershire, and Yorkshire.

Correspondence in regard to the regulations for and conduct of examinations was read and considered, and after a lengthy discussion it was resolved to nominate a committee to go into the whole matter, and make suggestions for improved methods.

The Secretary made a report regarding the final arrangements for the "Royal" Show, in which it was stated that the total number of entries in the bee-department was 286. This is the highest for some years. The report was approved.

The next meeting of the Council will be held on Thursday, July 18.

BEE-KEEPING IN BUCKS.

During 1901 and the two succeeding years the Bucks County Council made some attempt at fostering the bee-keeping industry in the county by sending round their bee-van in charge of a competent apiarist who gave lectures and demonstrations in bee-management, and by rendering practical assistance to bee-keepers on the line of tour throughout the county. Following up this propaganda work, an attempt was made some three years ago to found a county association of bee-keepers to carry on and enlarge the work, but owing to imperfect organisation it never made much headway, and the self-constituted hon. secretary (and sole official) having now left the county, the association ceased to exist. Phœnix-like, from the ashes of the old there arose on Saturday, June 1, a new organisation. Bee-keepers' representatives from all divisions of the county gathered together at the Congregational Schools, Aylesbury, and founded the Bucks County Bee-keepers' Association, with a representative committee, and Miss Scott Walker, of 5, High Street, Slough, as hon. sec. The membership fee was fixed at not less than 5s. annually, and the benefits of membership will be accorded to bonâ-fide cottagers at half fees. A general appeal for funds is to be made, and it has been decided to undertake vigorous propaganda work as far as funds will allow. Mr. Edwards, the expert employed by the county council, has been engaged to visit members and as many known bee-keepers as is possible, and it is hoped during the present season to place the association upon a good business footing. All persons interested are invited to communicate with the hon. sec., especially if they would like to avail themselves of the services of the expert whilst he is on tour.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

UNDER CROSS-EXAMINATION.

[6758.] The editor of the *American Bee Journal* is dissatisfied with my style of writing of late, and on page 389 quotes some instances of what he considers ambiguity, consequent on the brevity of my extracts from Dr. Miller's work, while on page 429 he sets me what he no doubt counts will be a poser. I really think Mr. York has not read with his usual perspicuity in either instance; so it will give me pleasure to enlighten his understanding and that of those readers he asserts may be puzzled by my words.

1. In regard to securing all worker-comb from starters, Dr. Miller is not singular in considering the very best way of ensuring this is to work for it in weak colonies. This is a truism I deemed required no elucidation. Mr. York's correction is, I plead, unnecessary, because in two extracts further up the page will

be found a description of the doctor's frame, and his process of "wiring" full sheets of foundation, providing "beautiful comb"—clearly showing that this "grand old man" of apiculture knows how to get worker-comb in various ways.

2. Reducing the brood-body to, say, eight frames at the opening of the full honey-flow, in order to force bees to engage in super work, is a very general practice. As the extract objected to for its want of lucidity follows one dealing with the opening of the flow and another treating of the section used, the brevity should not lead even a novice astray, because the natural sequence of half a dozen extracts clearly shows how, why, and *when* the number of frames should be reduced.

3. Increase by taking frames to an outapiary is an excellent style of procedure. Dr. Miller shows a liking for it, and recommends it. Probably the sentence would sound better and make the sense clearer if it read: "Increase is *often* made, &c." But again, Mr. York, I contend, strains my words (unwittingly, of course), because the two preceding extracts show as clearly as possible that Dr. Miller practises "home" increase. "Plugging with green leaves" infers nuclei in the home-apiary, while "taking a frame from a nucleus" to re-queen implies, if I can read words aright, that the nucleus is there for more than one purpose.

Mr. York was good enough to say my work was "exceedingly well done," and only complained of ambiguity bred of brevity. The extracts were merely intended as texts on which to hang sermons, and were supplied mainly to whet the appetite of readers for "some more," with, I have reason to know, the result that several additional copies of "Forty Years among the Bees" found their way across the "herring-pond." I trust what I have said will make matters clear and tend to remove all "puzzles."

Now let me deal with page 429. A statement was made in *American Bee Journal*, page 861, last year, under "Editorials," asserting that "not only some, but all, honey, light or dark, that is put into the sections is carried there from the brood-nest." I characterised this "fact" as "an old wives' fable," because it would be an *absurd procedure;* one without any *necessity;* that I never found *evidence* of it; and "lastly, and including all the others, it was *impossible*." Just note that last word, for the whole argument hangs thereon. Evidently the editor reads it that the bees *cannot* place newly-gathered nectar there. In this sense, of course, my contention would be manifestly absurd, as everyone who has ever handled frames finds in them at certain seasons a thin liquid "which looks like nectar, tastes like nectar," and *is* nectar. So "localities" are not so very dissimilar! Mr. York's special question is thus answered, but he would have found an answer to his query if he had read clearly my original paragraph, where he will find a description of the condition of the brood-combs, in which I distinctly state that a percentage of cells are full of "unsealed honey ready for the nurse-bees."

So much for the sense in which the word "impossible" was used. Let me take a step further and show why it "shuts the door" on this old wives' fable of honey being all stored in the brood-body before being consigned to sections. It is recorded already, and I have only to quote: "Every brood-cell is crammed full of eggs, larvæ young and old, sealed and unsealed, just emerging bees, a percentage of cells cleared dry for the queen's use, along with a small percentage with unsealed honey and pollen." Now if these cells are already full, does it not stand to reason that they cannot be twice filled, at the same time, with two different substances? Therefore my proposition has been proved. *"C'est impossible!"*

I will now step down from the witness-stand, and allow a better man to give undisputable evidence. Stand up, Mr. G. M. Doolittle, please, and give your testimony—as already recorded on page 691, *Gleanings:*—

"To give the best results in supers the comb remaining in the brood-chamber at the commencement of the honey-harvest must be literally *filled with brood.* With the combs thus full of brood, the first storing is done in the sections, and, having commenced work therein, the bees continue with little honey being put in the brood-chamber till near the close of the season." Again: "I would far rather allow a colony to go into the honey-harvest with only five combs filled with brood and five division-boards than to have the same colony with five frames of brood and five empty combs." Any jury you like to name, British or American, will acquit me of any error, or even exaggeration, in claiming it is *impossible* for newly-gathered nectar to be stored in the brood-nest when it is already *"filled with brood."* And this very Mr. Doolittle on page 861 was claimed as a witness and supporter of the original statement "that all honey that is put into sections is carried there from the brood-nest." Please let us revise our ideas when they are proved to be wrong.—D. M. M., Banff.

BEES IN THE ISLE OF MAN.

DANGER OF STORES RUNNING OUT.

[6759.] The past winter and spring have been the most severe in their effect on bee-life of any within my memory. Owing to the exceptionally favourable weather during the beginning of last September my bees stored sufficient food in brood-nests (as I thought) to put them through until May of this year; but the winter being a comparatively mild one, the consumption of food was excessive, and I found by taking an early glance at the condition of the bees that they were running very low in stores. I therefore began open-air feeding as soon as the temperature permitted, and have continued feeding every available day since. To-day (June 17) and yesterday I have given to my stocks (about twenty-five colonies) 14 lb. of syrup each day; yet, notwithstanding all this feeding, I lost one of my best stocks in early April through famine. The others have, I think, all pulled through, except those which were found queenless.

Since spring I have supplied my bees with an average per colony of 15 lb. to 20 lb. of syrup or honey, and on making my first proper examination of the hives on June 10 I was surprised to find that though in many cases the bees covered twelve frames, yet a good number of the hives did not contain more than 1 lb. or 2 lb. of food. In several cases I gave the bees a frame of comb filled with warm syrup; in fact, my constant attention to feeding has resulted in strong colonies ready to take advantage of honey-flow as soon as it begins and warm weather permits. I had my first swarm on Sunday, June 9, from a stock received from Mr. Woodley two years ago. The swarm weighed 7½ lb. I am looking forward to a good season, and trust we shall all soon participate in glorious bee-weather.—LANCELOT QUAYLE, Glenmay, June 17.

FIRST-CLASS CERTIFICATES.

THE QUESTION OF IMPROMPTU LECTURES.

[6760.] Seeing from your issue of June 10 that the question raised by Mr. Coltman is to be taken into serious consideration, I have been induced to put on paper a few of the thoughts which came to my mind when reading his letter.

Let me first of all, however, remind your readers that I am only just starting to journey towards that certificate, and would naturally wish, were my motives purely personal, to make the way as easy as possible.

I think we should remember that it is the *first-class* certificate we are considering, and that there are two inferior ones requiring a lower qualification, but at the same time assuring an extensive practical knowledge of bee-keeping. So as to maintain the craft at a high standard, I therefore consider that somewhat different qualities should be considered essential for the final.

Everyone possessed of the *good education* and the *sound knowledge* required by the examiners should be able to lecture for a quarter of an hour quite impromptu on any branch of such a practical subject as bee-keeping.

"Medico" (6744) in last week's issue refers to the Church. Perhaps, were such a quality demanded there, the institution would not be a loser. Be that as it may, churchmen have to deal with metaphysical subjects, providing food for the imagination and a consequent display of whatever rhetoric the student may possess.

In our craft, however, there is no room for rhetoric, and all that is asked for is such a thorough and sound knowledge of the whole of the details concerning the industry that the aspirant shall be able to speak intelligently for a very short time on a particular branch, and this, to my mind, should present no difficulty to those possessed of the necessary knowledge. May I ask the examiners whether in their opinion it does or does not work out this way?

In conclusion, I think an improvement might be made to help those who are unused to extempore speaking by extending the time for preparation from five minutes to fifteen. Students might be permitted to put their thoughts into consecutive order by means of headlines, but reference to books should be rigidly forbidden during this fifteen minutes. Remember, it is the first-class certificate we are discussing.—ARNOLD RICHARDS, Wallington, June 16.

THE OUTLOOK IN ROSS-SHIRE.

[6761.] *Midsummer and Bees Starving!*—The month thus far has been more unfavourable than May, and, with winter stores exhausted and no new honey available, "feed" is the word, and sugar-syrup a *sine quâ non* if disaster is to be averted. Lack of sunshine and plenty of rain are the prevailing features, but I am optimistic enough to expect that July will bring a change to opposite conditions, and that would mean a record season, although it is to be feared that shortage of stores and utter lack of income will go far to discount the general forward condition of stocks. It is almost impossible to make people understand that blossom in the fields does not necessarily mean honey in the hive, and even those who are most

zealous with feeders in early spring invariably replace them by supers during the opening days of June, quite regardless of whether honey is coming in or not. I have not put on any sections as yet, although filled racks are piled up ready for immediate use, but until the weather changes super room is indeed superfluous. Feeding had to be resorted to early in the month with a few stocks, but now all are being liberally supplied with sweetened water. The outlay in this direction is trifling, and the sugar bill as yet less than 6d. per colony, which is surely a small sum to expend as insurance against disaster—for I hear of larvæ being thrown out from many hives, and bees found dead, to the great surprise of their owners.

Instead of constant "driblet" feeding I prefer to give an occasional large quantity in autumn feeders, and find it is more satisfactory in every way.

Bees are in perfect condition, the saturated fields display a wealth of opening clover blossom, and with the arrears of warmth and sunshine transferred to July and August the honey-season should prove a bounteous one.—J. M. Ellis, Ussie Valley, June 22.

PERILS OF FAMINE AMONG BEES.

A WARNING AND A PROTEST.

[6762.] Allow me, through the medium of your journal, to call the attention of apiarists (beginners in particular) to the necessity for feeding swarms and weak stocks if they do not wish them to die from starvation this wet and cold weather. In Warwickshire the risk is very great for the poor bees at present unless change for the better comes soon. I see Mr. Pidduck, expert of the Cheshire B.K.A., has found many stocks starving. I fear that stocks and swarms are in the same condition through negligence of their keepers, who like to have a few hives in their gardens to show their friends, and never trouble to see to the inmates. I know one gentleman (?) who keeps bees like this. While he lived in a good honey district he used to have eight or ten stocks. Then he attended to them, and saw to their wants simply because they gave him a good return; but when he moved to a bleak, cold district where honey-flowers were scarce, he took his bees with him to starve, for he has never even looked at them, consequently all except one stock have died out. I and two of my friends have often tried to buy the remaining stock, but he refuses to part with it; and one can only protest against such cruelty.

I am glad to say, however, that all apiarists are not like this; but many, being only beginners, do not understand that bees are unable to get food during this bad weather. I was called to hive a swarm the other day which had issued from a hive that had supers on for over a week. The bees swarmed, but had not entered the supers, and the owner (a beginner in the craft) could not understand it, until I showed him that it was only a hunger swarm, for there was very little of either brood or stores in the hive. I, however, put things straight for him, and gave him a little advice how to go on, and his bees will now be all right again. I found one of my own stocks badly off for stores, and am feeding slowly.

In our Warwickshire B.K.A. there are over 500 members, and I wonder how many other stocks the expert would find starving if he made a tour just now. Very likely a great many but I am sure none through negligence, for a person who joins a B.K.A. generally thinks of his or her bees.

I hope this letter will stimulate all bee-keepers who have not done so to see that their charges do not starve or are not doing so at the present time. I send name for reference, and sign—Yenton Major, Erdington, June 20.

THE PREVENTION OF SWARMING.

[6763.] I can understand the difficulty experienced by "F. D. N., Framlingham" (6754, page 246), who writes to ask how to prevent swarming, because one meets with many bee-keepers who are similarly placed. Many small bee-keepers do not wish to increase their number of stocks, in some cases because they have not sufficient time at their disposal to give proper attention to more than three or four hives, or there may not be the convenience for keeping a larger number; or, again, cottagers look upon expenditure in hives and appliances as an obstacle. The cause of so much swarming seems to depend in a great measure upon locality, age of queens, and the strain of bees. In the latter case, where much foreign blood has been introduced, and this happens without the knowledge of some bee-keepers, there are usually plenty of swarms issuing, and these occur at times when least suspected. The present season has been one in which bees have frustrated many customs which bee-keepers too often look upon as invariable. Some apiarists, when a stock swarms, return it to the hive from which it issued, minus the queen, thus leaving it strong with a young queen due to hatch. Others return the swarm with the queen to the old stock after making a nucleus. The method adopted is as follows:—Have a spare hive, or nucleus-hive (which can be

made for two or three shillings), to take six or eight frames. Into this put two frames from the stock that has just swarmed, containing queen-cells, brood, and honey, while enough bees should be added to cover the brood and maintain sufficient temperature to raise a young queen and brood to build up a small stock. Add an extra comb or two, or frames fitted with full sheets of foundation, and close up with dummy and quilts. This nucleus-hive can be placed at the side of the parent stock, and the entrance blocked with grass or perforated zinc. The latter must be removed after twenty-four hours (or a rather longer period), and syrup food should be given if sufficient honey is not coming in. By placing the two hives together there will be no difficulty in uniting the two lots of bees after the honey-flow, or in the following spring, when the old queen is taken away and the number of stocks limited. The parent hive is filled up with frames of foundation, any remaining queen-cells are cut out, and the swarm is returned to produce practically as much honey as if none had issued.

Now to prevent swarming, the nucleus principle is probably the best way of overcoming the difficulty, but many bee-keepers will not trouble to carry out the instructions given, and others are, to put it in plain English, not capable of doing so; they are afraid to handle their bees, and they cannot detect a queen when she is bold enough to come to the front, so what is the good of advising manipulation which one knows will not be carried out? Above I referred to the method of making a nucleus from a stock that has just swarmed; the same plan would be adopted by a practical bee-keeper if, when he had already put supers on, he suspected the possibility of a swarm issuing. The supers would be taken off, queen-cells searched for (these would be taken away, some being used for the nucleus), or, if no queen-cells were present and the stock found very strong, a nucleus could be made in good weather with combs of brood and eggs, and made up as mentioned before. The parent stock would require frames of foundation to replace combs taken away, and then the supers should be put on again.

It is sometimes a good plan to take away a few combs without brood and replace with frames fitted with full sheets of foundation. This gives the bees more work to do, and checks too rapid increase. It is a frequent experience to find a lot of drone-comb in the middle of a brood-nest, but while this certainly reduces the number of worker-bees, it cannot tend to check swarming in the apiary. May I suggest that "F. D. N." join the Essex and Suffolk B.K.A.? If he takes this advice, I hope he will use his influence to get neighbouring bee-keepers to follow his good example, and I trust I shall have the pleasure of meeting them when making my autumn tour of inspection in Suffolk. —A. W. Salmon, Assist. Sec. and Expert, Essex and Suffolk B.K.A., Cashfield House, Sewardstone, Chingford.

ABOUT "CAPPINGS OF COMB."

AND PREVENTION OF SWARMING.

[6764.] We must all thank Mr. Crawshaw for his amusing "cappings," from which valuable honey (for consumption) and wholesome wax (for brood-foundation) can be separated in considerable quantities. It is good for a novice to sit and listen to the "bubbling over" of the wisdom of so many experienced bee-men to whom you so kindly introduce us in the B.B.J.

On page 237 Mr. Crawshaw refers to my suggestion that swarming might be prevented in an altogether new way, viz., killing the queen-larvæ by jerking them out of their cells. It seems to me that, as queen-cells hang straight down, while ordinary brood-cells slope upwards, a jar or downward jolt that would dislodge the queen-grub might do no harm to ordinary brood. What the bees would do if they found their young princess or princesses on the floor of the hive is, I suppose, a matter for experiment.

Mr. Crawshaw is surely quite right in jocosely remarking that the taking off of many "jars" of honey is the most profitable means of preventing swarming. Still, it seems to me that the application of this new-fashioned "jar" in a large apiary once a week would cost very little, and might give a new human control over our families of bees. I am always much interested, Messrs. Editors, in what is written as to the best times for manipulations.

We had a single magnificent bee-day on Monday, June 17. The following day it was again cold and drizzling, and I wanted to put a frame of empty comb into the middle of my brood-nests, if possible, without using smoke or carbolic. I went very gently to work, but the bees were bad-tempered and "touchy," and I judiciously retired with three stings, the bees meantime bumping viciously against my black hat. I was wearing a veil, which I seldom do when I use smoke. Having, however, rubbed a little methyl salicylate on my hands, I returned and closed the first hive comfortably down, getting only one new sting on the point of my finger as I lifted the frame to put it back in its old place at the end. But I am sure that many bees were prevented from stinging me by the drug. I used a little

smoke to my second lot, and did what I wanted easily enough. The finger stung sometimes troubles me a little with rheumatism, and I therefore hope the stings, which were all on the right hand, will do that good.

I often stand in front of my hives, though your valued contributor, "D. M. M.," when manipulating, considers that heretical. At the beginning of each season a few scouts angrily warn me off. I then stand firm, keep quiet, and have never yet been stung by these demonstrative little guards.

I heard a Yankee rhyme last week that may be helpful to brother bee-keepers in this cold and rainy weather:—

It ain't no use to grumble and complain;
It's far, far better to rejoice;
When God sorts out His weather and sends rain,
Then *rain's my choice.*

—John W. Moore,, Edinburgh, June 19.

SOME HAMPSHIRE NOTES.

[6765.] *Weather.*—The opening of the season here was all that could be desired, and bees were almost at abnormal strength by the second week in April; but, following this, the continuous cold winds and storms played havoc with the strength of colonies, until the second week in June finds us with but little advance on April, and still it storms, yet still we "wait and hope," as "Hants Bee" expresses it, for better times.

Prevention of Swarming.—This to me is a most simple matter. Apart from an occasional exception to the rule, my advice is to rigidly discard the queen-excluder, both for shallow-frames and sections, give room slightly in advance of the need, do not subject an overflowing and heated colony to the noxious fumes of naphthaline, and the swarming trouble will be a thing of the past, providing that the serious mistake is not made of introducing foreign bees into the apiary, for some foreign races will swarm without waiting till they are overcrowded. I own sixty colonies, and to date not a single swarm has issued from a supered hive; while a neighbour owning forty colonies, who is a strong believer in the use of excluder, has already had twenty-six swarms, most of them coming from colonies with the supers on. A word as to the occasional exception will be opportune. Should a swarm issue from a supered colony, I remove the parent stock to a new stand, letting the swarm take its place, and divide the combs of the former between the two, filling up with necessary frames and destroying unnecessary queen-cells. By following this plan a second swarm is prevented, and almost all the working force is joined to the swarm, which places it in good condition for working in the super, which of course is removed from parent colony to the swarm.

Bee Superstitions.—I remember having once seen crape pinned over entrances of four skeps which I purchased, their owner having died. This happened about twelve years ago. On inquiring the reason for placing this token of mourning on the hives I was told that the widow considered it right for the well-being of the bees. Ringing (or tanging, as termed here) is still carried on in this neighbourhood. Only yesterday I heard it at considerable length, and, after all, to me it is quite pleasant, for though we moderns are not superstitious, yet most of us are perhaps a wee bit sentimental over old customs.—Owen Browning, Kingsomborne, Hants, June 21.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

The Weather (page 232).—I do not think I have mentioned this before, and I should not like the fickle goddess to feel neglected. "D. M. M." is perhaps a little premature in his joy. I wonder if this treatment is the result of his boast. He should have touched wood! But will no one raise a protest? Surely someone in these days of wireless telegraphy! I am almost moved to write an ode to the odious goddess to propitiate her. Perhaps I might find her, like the Muse, per verse! But our scientific friends speak glibly of an anticyclone meet on the 24th. Let us hope that after they have met in their "spiral flight," and safely mated, they will settle to their proper sphere of fertile fine weather!

Ventilation or Exposure? (page 233).—Does not this confuse cause somewhat? Bees will endure any amount of ventilation if they can keep warm. Practically they can confine a certain amount of air within the cluster, and regulate the ventilation. The extreme case of death in one night must surely have been due to frost. Even so, it is surprising that the whole of the cluster should perish with one exposure. The cluster cannot have been a large one.

First-class Lecture (page 235).—Is there any comparison between this matter and clerical examinations? The subjects available are necessarily confined to a limited field, and all, in spirit at least, generally to such questions as might be put by bee-tent audiences. Surely a ready wit and available knowledge are necessary to the lecturer. It does seem possible that arrangements might be made to suit the convenience of candidates, but the standard of excellence should not be allowed to decline. Other examinations are yearly stiffer, and new experts should be at least as capable as the old ones.

Fair Comparison (page 241).—Does not Mr. Woodley strike the right note here? To make any comparison at all between races of bees it is necessary that all the conditions should be equal and common. It is almost as absurd to take the record of one queen, and compare it with that of another in a different district, as it would be to compare the speed of horses pulling unknown and different loads. To make any kind of scientific comparison between stocks they should be subjected to the same conditions as nearly as possible, otherwise the comparison is of no practical value whatever.

Keeping Notes (page 241).—Is not this a good idea? All the notes right in the hive, and their loss impossible. No misplacement of the record. Of course it would not be possible to carry the notes about for study, but my experience is that few bee-keepers do this. The keynote of up-to-date bee-keeping is simplicity, and this is simplicity itself!

Grammar (page 242).—"D. V." has certainly caught me in a dilemma. To make the intention of my "personal-vowels" clear. I was forced into a *verbal* inaccuracy. Three of the four component parts require the third person, and who am I that I should insist on my personal rights against a majority?

"Am" will not do, and to say "I or he is right" traverses discourteously another rule, as it is not a "confession of fault"! Like this, for instance! But surely the way of the trifler with words is narrow and hard!

"Even human noses" is, of course, a slip. But there is no reason why the classical organ should not be designated in this way, and be even at an advantage over its brother out of joint! I might have said "by odd noses," as it is not everyone who can detect the odours of the hive. How curious that "D. V." should notice this point in "odds and ends"!

Accuracy (page 242).—The delineation of the supposed spiral struck me as crude, for I was misled by the somewhat loose wording into supposing it limited by two radii of 440 and 560 yards respectively. The inaccuracy consisted in halving $6\frac{2}{3}$ to $3\frac{1}{6}$. It will be found to give $3\frac{1}{3}$ upon "checking." The *present* calculation is, mathematically, a little crude, but no doubt sufficiently near for its purpose. It is, however, incorrectly worked, and should give 7,480 yards, not 7,040 yards as stated. I quite agree that such a distance as this would entirely account for the length of absence. Indeed, I do not think that a queen-bee traverses anything like this continuous distance in twenty minutes. It is extremely improbable that she travels twenty miles an hour. Her object is not to evade pursuit, and the figures given, apart from the distance from home queens are known to have mated, almost of themselves disprove that the flight of the queen is invariably of such a figure.

Queries and Replies.

[3533.] *Danger of Buying Diseased Stocks.*—Having made up my mind to start keeping bees this summer, I bought the "Guide Book" and started taking the B.B.J. and the *Record* in order to learn all I could beforehand. Acting on the advice thus obtained, I bought two new "W.B.C." hives, but in April I found some difficulty in getting a stock of bees. However, on the recommendation of our local expert I bought two stocks, in box-hives, but they were unfortunately not fitted with standard frames; so I knocked off the porches, &c., and put them above the brood-chambers of the new hives—the latter being fitted with full sheets of foundation—in order that the bees might transfer themselves into the hives below. One seemed to be working very well, but the other appeared to be doing nothing, so I decided to shake all bees on to the empty frames of the new hive, which I found had not been touched, and treat them as a swarm. This operation I got through safely to-day, and on examining the combs of the old hive in order to find out the cause of their idleness, I was disgusted to come across what looks to me like foul brood (I am judging by picture in "Guide Book"). There was very little brood in the combs, but I have sent some for your inspection, and will be very glad if you would reply as to whether it is affected with the disease or not, and shall I destroy the remainder of bees or have them on their new foundation?—L. W., Hants, June 20.

REPLY.—The comb sent is affected with foul brood in very pronounced form, and we strongly advise you (as a beginner) not to tamper with it, or try to cure it at all. Destroy the lot—bees, combs, and hive, if the latter is not of much value. The foundation in new hive and the interior of the hive itself should be sprayed with soluble phenyle before introducing a swarm to it.

[3534.] *Swarming Vagaries.*—Would you kindly advise me on the following in the B.B.J.?—I had given a rack of sections to one of my hives a fortnight ago, and, on examining it, I was surprised to find that the bees had not even entered them. I therefore removed the rack and overhauled the frames, only to find the stock queenless. A large swarm issued from this hive on May 8, and also two casts afterwards in due course, one of which I hived, and returned the other to the parent stock. On going to the latter soon after doing this, I found a queen dead on the alighting-board, and supposed at the time that it was the queen of the returned lot. I also thought that the queen of the stock got lost on her mating trip. 1. As three queen-cells were found on the frames, one being open, the others sealed, I think the bees have succeeded in raising a queen, or do you think they are the cells the bees built before swarming the first time and have capped over since the young queens emerged? 2. As I am expecting a swarm from another hive, would it be advisable to unite it with the queenless stock above mentioned? I might add that I never use queen-excluder beneath sections, and have never had brood raised in same. Awaiting your kind advice.—L. NEWTON, White Roding, June 19.

REPLY.—1. The bees could hardly raise a queen under the circumstances stated, as the larvæ in

the parent hive would be too old for queen-raising. 2. The plan you propose is the best we can think of for you to follow.

[3535.] *Dealing with Swarms and Weak Stocks.*—Last autumn I had two stocks of bees; but, owing to illness, I was unable to attend to them, and as a consequence one stock died, and the bees in the other only covered three frames in mid-June. As I want to have a good yield of honey this season I have ordered a strong swarm to be delivered as soon as possible, and, with the help of this, I am anxious to have one good strong stock ready for the clover and limes. I also wish to move the stock from a small enclosure in a grazing field to a garden 30 yards off. My intention is to leave the weak stock in its present position until the swarm arrives, then move it to the garden on the evening of the arrival of the swarm, and hive the swarm on fully built-out combs and a single frame of foundation in centre of hive. Next I propose to take some bees from the swarm (say ½ lb.) and unite them to the weak stock to compensate for the inevitable loss of flying bees on following day. My idea is that in this way I shall have the united efforts of two queens in building up a strong stock for the honey flow. Please say if this is the best plan; and, if so—1. Should I have to dust both lots with flour when uniting the few bees of the swarm to the weak stock, and will it be necessary to cage the queen? 2. Would it be preferable to only transfer frames of brood to the swarm instead of uniting the two lots and then unite the two stocks in the autumn? In this way the bees would go into winter quarters strong, as I only want to keep one stock. 3. If you advise uniting before the honey flow, would it not be best to unite them three weeks after hiving of swarm, when the number of bees would be at its lowest?—W. E. B., Manchester.

REPLY.—We strongly advise you not to carry out any of the proposals detailed above. To adopt the methods described would only lead to disappointment, and for no purpose worth troubling about. In other words, you propose, in order to bolster up a weak stock, evidently headed by a poor queen, to interfere with any chance the swarm might have in giving you some surplus honey. It will be far better and safer to hive the swarm, and let it do its best in yielding you some surplus honey.

[3536.] *Drones Cast Out of Hive.*—Enclosed you will find two bees found outside my hive to-day. 1. Is this an old bee, and what is the cause of death? 2. Apparently a young bee, and, if so, what sex, and why has it been thrown out? I trust you will be able to give me a reply in the JOURNAL. Concerning 2, this was the only one I saw. I sign myself—DERBIENSIS,

REPLY.—Both bees are young drones. The undeveloped one has died for lack of warmth, the other has been cast out owing to adverse weather.

[3537.] *Size of Brood-chambers.*—Kindly answer following questions in B.B.J. :—1. If one has an exceptionally prolific queen in a "W.B.C." hive, is it orthodox to give queen more room for egg-depositing by putting a box of shallow-frames below brood-chamber? 2. Does the foregoing plan answer as well as if the bees were in a larger hive and an extra standard frame or two could be put in brood-chamber? 3. Is it usual and better to adopt a hive that will hold more than ten combs for queen-rearing? If so, about what number of frames should the capacity of the hive be? Name enclosed for reference.—AMATEUR, Worcestershire.

REPLY.—1. The plan of using a box of shallow frames below the brood-chambers of "W.B.C." hive has been recommended as a means of preventing swarming, but "W.B.C." himself does not follow that plan, nor does he advise non-experienced bee-keepers to adopt it. The additional room below the body-box may be advantageous in getting bees to work in sections or shallow-frames if they are disinclined to do so, but not otherwise. If an "exceptionally prolific queen" needs room for egg-laying, place the box of shallow-frames above the body-box with no excluder between. 2. The hive you name can be had to take extra frames if desired, but the great majority of bee-keepers find a brood-chamber holding ten frames large enough for ordinary purposes. 3. A ten-frame hive answers all the purposes required for queen-rearing.

[3538.] *Dealing with Moth-infested Skep.*—Would you advise me what to do with a stock of bees in an old skep? It is very worm-eaten, and infested with a lot of wax-moth. Should I place the skep over a frame-hive in order to save the brood? Or would it be best to drive the bees and utilise them in some way? An answer in next week's B.B.J. will oblige.—AMATEUR, Chelmsford.

REPLY.—On no account would we put the skep above a stocked frame-hive. To do so would carry the wax-moth pest into the latter. If the bees are strong, drive and treat them as a swarm, and burn skep and combs.

Bee Shows to Come.

July 17 and 18, at Burton-on-Trent.—Honey Show of the Staffordshire B.K.A. Special prizes, including five Open Classes. Prizes, 20s., 10s., and 5s. Single 1 lb. Jar and Section (entry free). Schedules from Joseph Tinsley, Expert, Chebsey, near Stafford **Entries still open.**

July 24, at Ashby-de-la-Zouch, Leicestershire.—Show of Bees, Honey, and Appliances, in connection with Annual Flower Show. Three Open Classes, two Local Classes, and one L.B.K.A. Bee Demonstrations, Lectures, &c. Sec., J. H. Dunmore, Alandale, Ashby-de-la-Zouch. **Entries close July 22.**

July 24 and 25, at Cardiff.—Annual Show of the Glamorgan B.K.A., in connection with that of the Cardiff and County Horticultural Society. Honey, Wax, Appliances, &c. Classes for members, novices. Five open classes, with prizes for Sections and Extracted Honey (light), 21s., and Bee Appliances, 40s. and 20s. Entry fee for one or more of the open classes to non-members, 2s. 6d. Schedules from Wm. Richards, Hon. Secretary, The Red House, Gabalfa, Cardiff. **Entries close July 20.**

July 25, at Tiverton.—Annual Show of the Devon B.K.A., in conjunction with the Tiverton and District Agricultural Association. Open classes. Schedules from R. W. Furse, Hon. Sec., Woodbury, R.S.O. **Entries close July 9.**

July 31, at Henbury, near Bristol.—Annual show of Honey and Wax of the Henbury District Bee-keeper's Association, in connection with Horticultural Society's Exhibition. Seven open (three free) classes, good prizes. Bee Demonstrations. Schedules from Hon. Sec., F. E. May, "Bellasis," Stoke Park, Westbury-on-Trym, Bristol. **Entries close July 24.**

August 5 (Bank Holiday).—Annual Honey Show of North Norfolk B.K.A., in connection with the Melton Constable Horticultural Association. Schedules from C. J. Cooke, Edgefield, Melton Constable. **Entries close July 27.**

August 8, at Abingdon Park, Northampton.—Honey Show of the Northants B.K.A. Two Special Classes, including one for single 1 lb. Jar Honey. Entry free. Prizes, 20s., 10s., 7s. 6d., and 2s. 6d. Schedules from R. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 3.**

August 8, at Madresfield, Malvern (Madresfield Agricultural and Horticultural Society).—Annual Show of the Worcestershire B.K.A. Open Class. Schedules from Geo. Richings, 2, Shrubbery-terrace, Worcester. **Entries close August 3.**

August 8 to 10, at Barnsley.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. Schedules and form of entry from John Maughan, Secretary, Blake-street, York. **Entries close June 29.**

August 14, at Wye (Kent Honey Show).—Five Classes open to the United Kingdom. Trophy Cup value £3 3s. (entry 1s.), 1 lb. Section, 1 lb. Light Run, 1 lb. Dark Run, 20s., 10s., and 5s. in each case (entry free); Beginner's outfit, retail price not to exceed 30s. (entry free). Open to Kent only (fourteen Classes): President's Challenge Cup, value £6 6s., for 6 1 lb. Sections and 6 1 lb. Jars Extracted Honey. Money prizes for 6 Sections, 6 Jars Light, 6 Jars Medium, 6 Jars Dark, 2 Shallow or Standard Frames, 3 Sections and 3 Jars, Beeswax, Mead, Candy, Cake Sweetened with Honey, Display of Cut Flowers, &c., &c.; two Special Classes for Cottagers. Schedules of J. Tippen, Secretary, Wye, Kent. **Entries close July 31.**

August 16, in Public School, Portwilliam, Wigtownshire.—Honey Show in connection with the Horticultural Society. Classes for Sections and Extracted Honey, open to amateurs and cottagers. Challenge Class (open to all) for 3 1 lb. Jars Extracted Honey, prizes 20s., 12s., 8s., and 4s. Schedules from Secretary, Horticultural Society, Portwilliam, N.B.

August 21, at Lancaster.—Show of Honey, &c., in connection with the Lancaster Agricultural Society's Annual Show. Open Classes for Extracted and Comb Honey, also Beeswax and Produce. Challenge Cup value £5 5s., also six silver and bronze Medals, and other Specials. Schedules from Thos. Armitstead and Son, Auctioneers, Lancaster. **Entries close August 7.**

August 21, at Radstock.—Annual Show of the Somersetshire B.K.A., in connection with the Radstock Horticultural Association. Seven open and two free classes; good prizes. Schedules from Herbert J. Moore (Show Secretary), Foxcote, Radstock. **Entries close August 14.**

August 21 and 22, at Shrewsbury.—Shropshire B.K.A. Annual Show, in connection with the Shropshire Horticultural Societies' Great Floral Fête, in the Quarry, Shrewsbury. Nine Open classes for Honey and Wax. Free entry for single 1 lb. jar and single 1 lb. section. Schedules from S. Cartwright, Hon. Sec., Shawbury, Shrewsbury. **Entries close August 9.**

August 28, at Chester (Cheshire Agricultural Society's Show).—Bee and Honey Department, under management of the C.B.K.A. Open classes for Hives, Sections, and Extracted Honey. Increased prizes. Members' classes, District class. Special prizes offered by Chester Tradesmen's Association. Schedules from T. A. Beckett, St. Werburgh's-chambers, Chester. **Entries close August 7.** Post entries at double fees to **August 14.**

August 28 and 29, at Rugby (Warwickshire B.K.A.).—Show of Honey and Bee Appliances, in connection with the Annual Show of the Warwickshire Agricultural Society Schedules from Jas. N. Bower, Hon. Sec. Warwicks. B.K.A., Knowle.

September 5, 6, and 7, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-five Classes (nine open to all). Increased prizes and medals. Schedules from F. B. White, Secretary, Marden House, Redhill, Surrey. **Entries close August 22.**

Sept. 25, at Altrincham.—Honey Show, in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom: For Best Hive, Observatory Hive, with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester: Classes for Trophy of Honey, Amateur-Built Hive, two Shallow Bars, Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low Entrance Fees. Schedules from Mr. J. Herbert Hall, 2, Dunham-road, Altrincham. **Entries close September 7.**

Notices to Correspondents.

HONEYMAN (Kent).—*Sending Queens by Post.*—You have met the case in the best way by replacing dead virgin queen, but for the rest the whole matter is simply a question of veracity. The queen has not been balled, but we cannot say what has caused her death. By breaking the cage open your customer has forfeited his claim, as cage should have been returned intact.

G. W. J. (Cornwall).—*Racks for Store-combs.*—We will reprint the particulars regarding racks for store-combs in a week or two, as our columns are rather overcrowded just now.

L. M. B. (Hailsham).—*Race of Bees.*—Bees are Ligurian hybrids. It is quite possible for native bees to become hybridised without your knowledge through queen mating with a foreign drone from a neighbouring apiary.

J. W. M. (Ossett).—*Bee Nomenclature.*—Your "specimen" is a robber-bee bearing the black shiny appearance characteristic of the veteran "robber."

T. A. (West Dereham).—*Queen Cast Out of Hive.*—Queen sent is an old and worn-out one. As the bees are working well they have evidently deposed her and raised another in her place.

A READER (Withernsea).—*Examination of Experts.*—All particulars as to examinations can be had on application from the secretary of the British Bee-keepers' Association, Mr. Edwin Young, 12, Hanover Square, London, W.

G. E. W. (Campden).—Queen is old and worn out.

Suspected Combs.

A. T. (Nottingham) and E. R. (Wisbech).—There is no sign of foul brood (*Bacillus alvei*) in sample of comb. The dead larvæ bear all the characteristics of "black brood," as described by American writers.

E. P. (Radlett).—Comb is affected with foul brood, though not of a bad type. We should say that bees have deserted their hive after the fashion of a hunger swarm, as food appears to have been short, judging by the dead bees lying head foremost in cells. The combs, being very old and foul, are of no use whatever. We advise burning the lot.

T. S. (Manchester).—There is no *Bacillus alvei* in sample of comb. The dead brood is merely chilled. We cannot give an opinion on the "red insects" mentioned without seeing a specimen

CORNUBIAN (Redruth).—We find no disease in comb sent.

G. H. B. (Chester).—The symptoms are highly suggestive of black brood, but there is no sign of *Bacillus alvei* (foul brood).

T. G. T. (Maidstone).—There is no disease in comb; it contains nothing but old pollen. The bees have evidently died from want of food.

NERO (Wymondham).—Comb is affected with foul brood, which appears to be of recent development.

W. W. (Durham).—Comb is affected with foul brood. The treatment you are using is quite right. Burn all the combs and frames. The Board of Agriculture leaflet has been sent by post; you will find full instructions therein.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

QUEENS, delivery after June 7, any number (see advertisement page v. last week); Nuclei, 4-frame, with Queen, 12s. 6d.; started now would make a full Stock for next season, or store surplus at Heather.—CHARTER, Tattingstone, Ipswich. z 52

EXCHANGE TWO HIVES, Dummies, Excluders, and Section Racks, for Swarm.—DICKINSON, 101, Portland-street, Southport. a 27

Special Prepaid Advertisements.—*Continued.*

SECTION GLAZING, best quality Lace Paper, made especially for bee-keepers' use, not common thin box edging, white, 1 in. wide, 100 6d., 500 2s. 3d.; pink, green, blue, 100 7d., 500 2s. 6d.; lace bands, white, 2⅞ in., 3 in., 3⅛ in. wide, 100 1s. 3d., 500 4s. 6d.; pink and pale blue, 100 1s. 6d., 500 6s. Cash with order; all post free.—W. WOODLEY, Beedon, Newbury.

SECONDHAND "WELLS" HIVES, waterproof roofs, worked successfully. Price 12s. 6d. —HORN, Bedale, Yorks. a 26

HEALTHY DRIVEN BEES (no foul brood in district), ready August 7, 5s. per lot, including new Skep. Cash with order.—DAVIDSON, Melbury Abbas, Shaftesbury. a 25

AUTO-HARP (Glaesel's "Wagner"), beautiful inlaid instrument, rich tone, nearly new. 37 strings, easily learned, may be played in 12 different keys. Cost over £2; sell 30s., cash; tuning fork, pitch pipe, instruction book, and case included.—F. B. MERCER, Sidmouth, Devon. a 23

"FAMILIAR WILD FLOWERS," Hulme's, 21 parts, new, uncut. Cost 6d. each net; sent post free, 7s. 6d., or exchange honey.—F. B. MERCER, Sidmouth, Devon. a 24

1 LB. GLASS JARS FOR SALE, 8s. gross, carriage forward.—ALLEN, Biggleswade. a 21

QUEENS, choice 1907, bred from my non-swarming stocks, 3s. 6d. each, per return; 3-frame Nuclei, with young laying Queen, 7s. 6d.—TAYLOR, Boldmere, Wylde Green, Birmingham. a 20

EXCHANGE PEN OF WHITE LEGHORNS, White Wyandottes, Buff Orpingtons, or White Aylesbury Ducks for Bees, Honey, or Appliances. —HART, 133 Stanstead-road, Forest Hill, S.E. a 19

1907 QUEENS, fertile (Woodley's strain); safe arrival guaranteed, in safety introducing cage, 3s. 6d.; Virgins, 1s. 6d.; 3-Frame Nucleus, with young Queen, 10s.—TOLLINGTON, Woodbine Apiary, Hathern, Loughboro'. a 22

WANTED, A "COWAN" EXTRACTOR, in first-rate condition, by A. DENNY, Cardross Park, Cardross, Dumbartonshire. a 18

QUEENS, BLACKS, CARNIOLANS, GOLDEN-ALL-OVERS, ITALIANS, by return mail; guaranteed satisfaction with every Queen, also safe arrival; Virgins of above ready now. Descriptive list post free.—CRUADH APIARIES, Ballyvarra, Co. Limerick. a 17

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw-cap jars, 77s. gross, 21s. ¼ gross; ½ lb. ditto, 45s. gross, 13s. ¼ gross; Honey in bulk, 48s. cwt.; samples, carriage paid, 8d. Further prices and particulars on application.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 74

HONEY JARS.—We have contracted largely for special well-finished machine-made screw-top jars, each washed and wrapped in paper, complete, with caps and cork wads, 15s. 6d. gross, 43s. 3 gross; ½ lb., 12s. 6d. gross, 37s. 3 gross.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 75

TRY a Swarm on Foundation fixed by "Palmer" device; cannot stretch. Sample set, P.O. 1s. 1d., easy to make.—W. PALMER, c/o A. Simpson, Gate House, Maghull, Liverpool. z 99

SWARMS, strong, 10s. and 12s. 6d.; Boxes, charged 2s., but returnable.—T. GILES, Cowsfield Apiary, Salisbury. z 97

STRONG Healthy Swarms, 8s. each, or 2s. 3d. lb.; immediate delivery, cash with order.—WHITTING, Manea. a 4

NEW HONEY, good quality, bulk or jars; sample 2d.—CHARTER, Tattingstone, Ipswich. z 85

Special Prepaid Advertisements.—*Continued.*

HONEY.—White Clover Honey, in any quantity, in bottles or by the cwt., in cans.—Prices on application to H. MILES, Van Farm, Gomeldon, Salisbury. z 96

THREE-FRAME NUCLEI, 1907 Laying Queen, 10s. 6d.; or Stocks on Six Frames, 18s.—HEMMING BROS., Standlake, Witney. a 11

BRICE'S 1907 HYBRID QUEENS, tested, 5s. 6d.; Virgins, 3s.; safe arrival guaranteed.—HENRY BRICE, Brigstock-road, Thornton Heath, a 13

TILLEY'S PATENT ("Won't Leak"), 2 lb. Sections, may be used with the ordinary Sections; sample, with particulars, 6d.—M. H. TILLEY, Bee Farm, Dorchester. a 10

30 STOCKS CARNIOLAN BLACK HYBRIDS for sale, 8 Frames, after Abbott's pattern, 6 of Brood, 1906 Queen, Combs from full sheets, wired. Free on rail, cases returnable, 18s. each; cases free, £1 each.—SHAW, Eden House, Sedgefield, co. Durham. a 15

WANTED, GOOD PIANO; part exchange Stocks and Swarms of Bees.—G., "British Bee Journal" Office. z 86

STRONG NATURAL SWARMS, 1906 Queen, 12s. 6d., 13s. 6d.; 3-Frame Nuclei, 1907 fertile Queen, 12s. 6d.; Stocks, in Skeps, 1906-07 Queen, 12s. 6d., 13s. 6d.; Stocks, on ten Standard wired Frames, 25s.; fertile Queens, 3s. 6d.—W. WOODS, Normandy, Guildford. z 87

HAVING DISPOSED OF BEES, quantity Shallow Combs for sale, 5s. 6d. dozen.—GARNER, Dyke, Bourne.

BEE-KEEPERS' NECESSITIES.—British Weed Foundation, Brood, 2s. 5d. lb.; Super, 2s. 9d.; 5 lb. 1d. lb. off, 10 lb. 2d., postage 4d. first lb., 1d. lb. after; Hives, 7s. 6d., 18 by 16, for 10 Standard Frames, double walled back and front, 9 in. lift, telescope roof and porch; also Hives, ditto, 18 by 18, with dummy, sliding entrance, 9s. 6d.; self-adjusting Frames, 1s. 2d. doz., 8s. 100; "W.B.C." ends, 2s. 6d. gross, post. 4d.; Split-top Sections, 2s. 9d. 100; Section Racks, 2s. 6d.; Shallow Frame Crates, complete, 3s. Cash with order.—COX, manufacturer, Smallbrook-street, Birmingham. y 28

PROTECT YOUR FRUIT.—Tanned Garden Netting, only best quality supplied. Order promptly, as nets are scarce and must be dearer. 25 yds. by 8 yds., 50 yds. by 4 yds., and 100 yds. by 2 yds., 9s. each; add ten per cent. for other sizes. —L. WREN AND SON, 139, High-street, Lowestoft. y 39

GILLIES MARVELLOUS CONTROL-CLOTH, in vest pocket case, with clearly printed instructions for manipulation of Bees; two delivered anywhere, 7d. stamps.—43, Dawson-street, Dublin. Agents wanted. y 61

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester.

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

WANTED, for Scientific purposes, QUEEN BEES and WORKER HORNETS. Will brother bee-keepers oblige?—HERROD, Apiary, Luton.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

GOLDEN-ALL-OVER QUEENS, 6s. 6d. to £1. —E. L. PRATT, Swarthmore, Pa., U.S.A. Handsome 24pp. brochure free.

Editorial, Notices, &c.

THE "ROYAL" SHOW.

LINCOLN MEETING.

A SUCCESSFUL EXHIBITION.

Not for many a year has the Royal Agricultural Society of England held so successful an exhibition as that which terminated at Lincoln on Saturday last. That important factor the weather was uncertain as only English weather can be, and our own impression, on leaving town on Monday afternoon for Lincoln, was that things could hardly be more unpromising on that point. Right through the counties of Beds, Hunts, and Lincs the rain came down in torrents. Even on judging day it rained heavily at times, but for the rest of the week the weather was all that could be desired during the time visitors were arriving. The result was eminently satisfactory to all concerned, from the King downwards. His Majesty is reported to have remarked to the president, the Earl of Yarborough, after inspecting the magnificent display in the Horticultural tent, "This exhibit alone is worth coming all the way to see."

The location of the show-ground could hardly be improved on in view of the enormous number of exhibits to be provided for.

The total number of visitors who passed the turnstiles during the five days the show lasted was 133,006, to which should be added over 3,000 tickets distributed by a Lincoln firm; and, as the holders of these did not pass the turnstiles, it brings the total to 136,006. We learn the actual money taken for admission amounted approximately to £10,412.

Bee-keepers, as usual, were mainly concerned with the bee-department. We may say it looked extremely well, housed in a substantial canvas-roofed shedding, with a frontage of 170 ft. First in attractiveness came the collections of bee-appliances, which were large and varied. Messrs. Abbott Bros., Southall, secured first prize for an exceedingly fine display of hives and bee-goods remarkable for quality and excellent workmanship. Mr. W. P. Meadows, Syston, was second with a still more extensive assortment of appliances, in which tin goods were especially prominent. Mr. E. H. Taylor, Welwyn, took third prize with another very large collection of apicultural requirements of every kind. We learn that Messrs. Jas. Lee and Son were unable to stage the collection they entered owing to pressure of business at their works in London.

The very lengthy prize list which follows compels us to defer the remainder of report on the exhibits until next week.

G. J. Young, Esq., J.P., acted as steward of the bee-department, assisted by Mr. R. Godson.

The judges were Messrs. T. I. Weston, W. Broughton Carr, F. J. Cribb, and A. G. Pugh, whose awards were as follows:—

Class 411.—*Collection of Hives and Appliances* (4 entries).—1st, Abbott Brothers, Southall, London; 2nd, W. P. Meadows, Syston, Leicester; 3rd, E. H. Taylor, Welwyn, Herts.

Class 412.—*Complete Frame-hive for General Use* (7 entries).—1st, Abbott Brothers; 2nd, James Lee and Son, London; 3rd, Abbott Brothers.

Class 413. — *Complete Frame-hive for Cottager's Use, price not to exceed* 10*s.* 6*d.* (6 entries).—1st, James Lee and Son; 2nd, Abbott Brothers; 3rd, W. P. Meadows; h.c., Abbott Brothers.

Class 414.—*Honey Extractor* (5 entries).—1st, W. P. Meadows; 2nd, W. P. Meadows; certificate, W. P. Meadows.

Class 415.—*Observatory Hive with Bees and Queen* (6 entries).—1st, William Dixon, Beckett Street, Leeds; 2nd, Abbott Brothers.

Class 416.—*Any Appliance connected with Bee-keeping* (9 entries).—1st, W. P. Meadows; 2nd, F. W. L. Sladen, Ripple Court Apiary, Dover; certificate, Abbott Brothers.

HONEY.

Classes 417 and 418 confined to members of the Lincolnshire Bee-keepers' Association and residents in the County of Lincoln.

Class 417.—*Twelve* 1-*lb. Sections* (24 entries).—2nd, A. W. Weatherhogg, Willoughton, Lincoln; 3rd, T. S. Holdsworth. (No 1st or 4th prizes awarded.)

Class 418.—*Twelve* 1-*lb. Jars Extracted Honey* (39 entries).—1st, W. J. Cook, Binbrook, Market Rasen; 2nd, T. S. Holdsworth; 3rd, F. Harris; 4th, C. Laywood, Willingham Road, Market Rasen; r. and h.c., W. Patchett; h.c., J. F. Andrew, Humberstone, Grimsby.

Entries in Classes 419 to 422 can only be made by residents in Cheshire, Cumberland, Derbyshire, Durham, Herefordshire, Lancashire, Leicestershire, Lincolnshire, Monmouthshire, Northumberland, Nottinghamshire, Rutland, Shropshire, Staffordshire, Warwickshire, Westmorland, Worcestershire, Yorkshire, the Isle of Man, Ireland, Scotland, or Wales.

Class 419.—*Twelve* 1-*lb. Sections* (14 entries).—1st, J. G. Nicholson, Langwathby, Cumberland; 2nd, James Pearman, Penny Long Lane, Derby; 3rd, C. H. Haynes, Hanley Castle, Worcester.

Class 420.—*Twelve* 1-*lb. Jars of Extracted Light-coloured Honey* (23 entries).—1st, H. Dilworth, Shangton, Knebworth; 2nd, John T. Willson, Shirebrook, Mansfield; 3rd, T. S. Holdsworth,

Kirton-in-Lindsay; r. and h.c., W. Patchett, Caborne-in-Caistor; h.c., R. Morgan and Jas. Pearman; c., J. Boyes, Cardiff.

Class 421.—*Twelve* 1-*lb. Jars of Extracted Medium or Dark-Coloured Honey* (19 entries).—1st, H. Dilworth; 2nd, George Marshall, Norwell, near Newark; 3rd, F. W. Frusher, Crowland, Lincs; r. and h.c., T. S. Holdsworth.

Class 422.—*Twelve* 1-*lb. Jars of Granulated Honey* (17 entries).—1st, H. Dilworth; 2nd, John T. Willson; 3rd, T. S. Holdsworth; r. and h.c., R. Morgan; h.c., J. Pearman; c., Mrs. Pilkington, Brauncewell Grange, Lincoln.

Entries in Classes 423 to 426 can only be made by residents in Bedfordshire, Berkshire, Bucks, Cambridgeshire, Cornwall, Devon, Dorset, Essex, Gloucestershire, Hampshire, Herts, Hunts, Isle of Wight, Kent, Middlesex, Norfolk, Northamptonshire Oxfordshire, Somerset, Suffolk, Surrey, Sussex, or Wiltshire.

Class 423.—*Twelve* 1-*lb. Sections* (11 entries).—1st, Chas Lodge, High Easter, Chelmsford; 2nd, G. Hills, Moor Barns Apiary, Coton, Cambs; 3rd, W. Woodley, Beedon, Newbury; r. and h.c., Alfred Barber, Comberton, Cambs.

Class 424.—*Twelve* 1-*lb. Jars of Extracted Light-coloured Honey* (11 entries).—1st, Richard Brown, Somersham, Hunts; 2nd, James Lee and Son; 3rd, E. C. R. White, Newton Toney, Salisbury; r. and h.c., Charles Lodge; h.c., R. H. Baynes and S. G. S. Leigh, Boughton, Hants.

Class 425.—*Twelve* 1-*lb. Jars of Extracted Medium or Dark-Coloured Honey* (9 entries).—1st, E. C. R. White; 2nd, S. G. S. Leigh; 3rd, Charles Lodge; r. and h.c., E. C. R. White.

Class 426.—*Twelve* 1-*lb. Jars of Granulated Honey* (12 entries).—1st, James Lee and Son; 2nd, Charles Lodge; 3rd, F. R. Ford, Burwell, Cambs; r. and h.c., W. Woodley; h.c., Miss L. Pollard, Haynford Hall, Norwich; c., R. H. Baynes.

Class 427.—*Three Shallow Frames of Comb Honey for Extracting* (12 entries).—1st, Charles Lodge.

Class 428.—*Six* 1-*lb. Jars of Heather Honey* (11 entries).—1st, W. Sproston, Shugborough, Staffs; 2nd, Burn and Botham, Phœnix House, Whitby; 3rd, D. W. Barnes, Coniston, Lancs; r. and h.c., John Berry, Llanrwst, N. Wales; h.c., A. F. Borland and T. Walker, Hawkshead, Lancs.

Class 429.—*Six Jars of Heather-mixture Extracted Honey* (11 entries).—1st, W. E. Brooking, Malborough, Kingsbridge, Devon; 2nd, James Pearman; 3rd, W. Sproston; r. and h.c., F. F. Upton, 73, Church Street, Rugeley.

Class 430.—*Honey Trophy* (11 entries).—1st, T. S. Holdsworth; 2nd, Richard Brown; 3rd, James Pearman; r. and h.c., W. Dixon; c., Ball and Grey, Long Eaton.

MISCELLANEOUS.

Class 431.—*Beeswax* (*not less than* 2 *lb.*) (12 entries).—1st, E. C. R. White; 2nd, Charles Lodge; 3rd, F. W. Frusher.

Class 432.—*Beeswax* (*not less than* 3 *lb., in Shape, Quality, and Package Suitable for the Retail Trade*) (5 entries). 1st, James Pearman; 2nd, F. Harris, High Ferry, Sibsey, Boston; 3rd, Charles Lodge.

Class 433.—*Honey Vinegar* ($\frac{1}{2}$ *gallon*) (3 entries).—1st, James Pearman; 2nd, W. Ball, Eagle Hall, Lincoln.

Class 434.—*Mead* ($\frac{1}{2}$ *gallon*) (2 entries).—2nd, Richard Brown.

Class 435.—*Exhibit of a Practical or Interesting Nature Connected with Bee Culture* (3 entries).—1st, George Rose, 50, Great Charlotte Street, Liverpool; certificate, W. Dixon.

THE BEE-DISEASE IN THE ISLE OF WIGHT.

We have received a report for publication from the Board of Agriculture and Fisheries on the bee-disease in the Isle of Wight, which is held over until next week owing to the report of the Royal Show occupying so much space in this issue.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[6766.] May the new month prove a herald of summer. I write on its first day, with the welcome hum of the bees in my ears, and hope again rises in the hearts of both farmer and bee-keeper. With the recent soaking of the pastures and a rising temperature we should soon have a full crop of white clover, and a change in the weight of the supers now on the hives would be beneficial and welcome. June has been a trying month to bee-keepers generally, especially to new recruits to our craft, who have received their first swarms and had to feed them daily to keep them alive—trying also to the seller of swarms. The strongest hives have nearly all swarmed about the same time during the outburst of sunshine; in my own apiary several swarms would be on the wing at the same time, or one would

follow the other in such quick succession that it was impossible to hive one before the next swarm was in the air, and in most cases ready to unite with the previous one. This sort of thing means work for the apiarist, involving the shaking of the bees out into separate swarms and hunting for queens among the enormous mass of bees comprised in three or four large swarms. When swarms follow each other at intervals of a quarter of an hour or more bee-keeping is a pleasurable occupation, but under the circumstances detailed above it is—well, to say the least, "otherwise."

The Wax-moth.—These pests to the bee-keeper must be promptly killed whenever seen, and every larva detected throughout the season crushed at once. When opening hives I am always on the alert for them in every stage. Only by so doing can I keep them at bay.

Supers should not be given so freely to stocks this year, or a large number of unfinished sections and shallow-frames will be the result. When the central sections are finished and the outside ones are being sealed over, it will be just the time to put another super on. In giving a second super I always place it under the first one, but if the stock should send off a swarm a day or two after the second rack has been put on I should advise its removal, thus giving the bees a chance to complete the sections. On the other hand, if the bees do not swarm the sections will be taken to and filled more quickly than if placed on top of the first rack, and the sections will be less likely to become stained. Bee-keepers must use their own judgment when giving supers, so much depends on the breadth of forage, and the usual time when it begins to fail.—W. Woodley, Beedon, Newbury.

FIRST-CLASS CERTIFICATES.

[6767.] I am very glad to see from last week's B.B.J. that a committee has been appointed to revise the regulations for the B.B.K.A. examinations. The gradual evolution of these tests has necessitated more than the revision of the requirements for passing in the different classes. The time has now come for another review of the situation, and I hope to furnish the committee with my views, gained from a long experience as an examiner in many fields of work. Several of the letters published by you with regard to the examination for first-class expertships are in harmony with my opinions, and I feel sure will be helpful to the committee in forthcoming deliberations.—W. H. Harris, Hayes End, Middlesex, July 1.

THE B.B.K.A. EXAMS.

THE IMPROMPTU LECTURE QUESTION.

[6768.] I do not say that the regulations for the first-class experts' examination are perfect. But I do say—Do not change except for a real improvement. And I think the following three points should be recognised in considering the subject:—

1. It is always a mistake to lower the standard of an examination. The universal tendency is to raise it.

2. There is a special reason for the "extempore" lecture. No one needs quickness and readiness more than a lecturer on bee-keeping. Local circumstances often make a complete change of treatment of the subject necessary, and the lecturer is always "heckled."

3. The time given for the preparation of the "extempore" lecture is quite long enough for a capable man who knows his subject.—Sidney Smith, Wheldrake Rectory, York.

[6769.] I have read the correspondence in B.B.J. on the above, and the criticisms on my last letter. The whole of it seems to infer that I wish to make the examination easier. Nothing of the kind. Make the examination as hard as possible both practically and theoretically, but if lecturers are wanted have a separate certificate for them. If it is desired that the candidate needs to be an analyst of honey, or even an electrical engineer, have a separate certificate for him. What I say and adhere to is that neither in bee-keeping nor in anything else is it of necessity found that the best men are lecturers on their profession. One profession is enough as a rule. It is possible to make an examination very severe without the lecture, and I consider there should be a separate certificate for proficiency in lecturing.—Medico, Leicester, June 29.

"BALLING" QUEEN-BEES IN SPRING

ITALIAN AND OTHER FOREIGN QUEENS.

[6770.] Referring to Mr. Farmer's letter (6717, page 203) and Mr. Nicholson's letter (6725, page 213), may I relate a somewhat similar experience in the "balling" of queens in my own apiary? In the beginning of April last, while examining a stock, I found the queen "balled." She was at once rescued and caged on a comb, but I found her dead twenty-four hours afterwards on removing the cage. The adjoining stock was next opened for examination, and here again the queen was "balled" and had to be rescued from the excited bees. This time I kept her out of the hive for about half an hour, when she was returned to the hive, and she remained at the head of the stock until about three weeks ago, when I

found her below the flight-board on the ground, dead! I opened the hive, and on one of the combs was a ripe queen-cell. This stock is now headed by a young queen a fortnight old, but I am not sure that she has yet been safely mated—the weather we are having is so bad that it is hardly possible for her to have been fertilised. But I have resolved to make no more spring examinations of my hives in future until the month of May.

My recent experience of Italian bees has been almost unique. In the autumn of 1905 I bought an imported Italian and introduced her to a fairly strong stock; she was accepted by the bees, and all went well for a time, but in the spring of the following year I found the combs in the hive rotten with foul brood. I determined to adopt drastic measures, and without delay burnt the lot! I then bought a Golden Italian virgin, and gave her to a six-frame stock, but, unfortunately, she got lost on her mating trip. This finished stock No. 2. I then invested five shillings in a fertile Italian queen, which I wintered in a six-frame stock, but the bees this spring were so reduced in numbers that it was useless to try to pull the colony through, so I united them to the stock that first lost its queen. All seemed to go on well, as I thought, and, seeing young bees coming out of the hive five weeks afterwards, I was quite pleased to think it was all right. But a week later the stock showed what I thought were unmistakable signs of queenlessness, and this made me open the hive for the first time in order to make quite sure if this was so; and, sure enough, I found two empty queen-cells and about a score of Italian drones, but neither queen nor brood. This ended No. 3 stock. Meanwhile I had got another imported Italian, which the bees accepted all right, and then cast her out of the hive! After this I am buying no more Italian queens; but if any come around my way looking for an owner I will annex them. As to their temper, I never had them long enough to find out whether this was good or bad, but their sting was just about the same as that of our natives. I have a very lively recollection of two incidents which happened with a lot of Cyprian bees we had in the spring of 1884 (my first year of bee-keeping). My father was examining the stocks one fine evening, and coming to a hive of Cyprians, I saw him bend down to look at the flight-board, when suddenly he sprang up and bolted! He was about sixty years of age then, and four yards away was the garden fence, 3 ft. high, and he cleared it as if it had been only a foot, and for a hundred yards he ran as if all the bees in the garden had been stinging him, while I sat down and laughed. An old farmer neighbour had advised him that a little turpentine was good for stings, so when he started on his return journey I hastened off for the turpentine bottle and some cotton-wool, and after helping him to get the stings out I dressed them liberally with the liquid. Cyprian stings are bad, but we never again used turpentine for them. Three weeks later my turn came. One day a stray swarm arrived from somewhere, and tried to enter a straw hive occupied by a Cyprian cast; but the wanderers had to be content with shelter under the flight-board; then, towards the evening, we had rain, and on reaching home after the day's farm work we had to secure the stray swarm, of course. Being first at the hive myself, I turned up the skep to see how they were doing, and, well, I couldn't run away as my father did, so I had to take what was going, and for five minutes things were, to say the least, lively! But we secured our swarm, and then I retired for meditation into a field of wet beans, and in the end got quit of my tormentors; but I resolved never again to laugh when my father ran away from Cyprian bees! Well, to bring my long story to an end, I conclude with a line about that well-worn topic, the weather. Your correspondent Mr. Farmer has had it rough in Cornwall, but if he were in this part of Scotland (East Stirlingshire) he would realise that we are a bit worse off than he is, seeing that for the last sixty hours it has rained and rained continuously, and stocks that should have been bringing in honey are throwing out their drone-brood, and being liberally fed at that. There are about 200 fruit trees round us that have been in full bloom for the past three weeks, while the bees have had less than six days' work on them. Our stocks have not expanded one inch for a fortnight, and in three weeks' time the fields of beans will be blooming. Meanwhile, I hope the weather will give up being so wretchedly bad, and give the poor bees a chance, for stocks about here are a full month late. All the same, I trust we will yet have a successful year in Scotland, and hope it will be the same in the South.—J. C. A., Grangemouth, N.B., June 15.

ISLE OF WIGHT BEE-TROUBLE.

THE FEEDING THEORY.

[6771.] In reply to your correspondent "H. D. D., Basingstoke" (6752, page 245), will you allow me to say that when in the island I made extensive inquiries from bee-keepers themselves with regard to the feeding theory, but failed to find any clue sufficiently clear as trending in a given direction to warrant the acceptance of any theory upon feeding. For in-

stance, a colony which produced 100 lb. of extracted honey last year, and wintered on cane-sugar and Izal, died before January like the rest in the same apiary fed on natural stores. Another case, five miles distant, where no feeding was resorted to either in spring or autumn, I found the last stock in the village, with over 12 lb. of last year's honey in the hive, yet these bees were reduced to two frames and dying fast. I have learned since that the stock is dead!

In another case seven miles away I saw eighteen hives desolate and deserted, most of them containing over 10 lb. of honey, and not a bee alive. All these were natural stores.

About a mile away from the last case fifteen stocks which were wintered on cane-sugar and naphthol beta, prepared on the recipe of the "Guide Book," died in the same manner. Within another mile a skeppist of forty years' experience, who never fed his bees, suddenly lost them all in the middle of summer.

My purpose has been to place before the bee-keeping fraternity the actual facts, and not to dogmatise or theorise. Of course I have my theories, and have offered the islanders a few suggestions, some of which are being adopted.—JOHN SILVER, Croydon Grove, Croydon.

RENEWING COMBS ANNUALLY.

[6772.] Mr. W. J. Farmer has referred in his letter (6724, page 213) to his practice of discarding brood-combs after one year's service. Personally, I should like to express my admiration for your able correspondent's wise habit, which I was pained to learn has met with somewhat unbrotherly criticism in a recent issue of our little journal, which during the last few months has contained many columns of both useful and clever articles. The general result of a season, so far as combs are concerned, is that large areas relatively become either pollen-cloggd or converted into drone-comb. For these reasons alone I remove each year quite 50 per cent. of the brood-combs from my hives, because in my opinion such combs are a great impediment to the highest results in the succeeding season.

Again, it is said that in past generations, when skeps only were kept, there was less disease than since the introduction of modern movable-comb hives. If this be so, may not the custom of cutting out the skep combs, as was then the habit, largely account for such healthfulness? I am aware of other reasons, but if we learned "to think bacteriologically" we should often act differently from the many common practices of a disease-producing nature which are unthinkingly followed by too many in the craft.

Again, what of the financial aspect? Combs, black with age, possess little value, and are certainly troublesome to render into wax. "I have often seen old combs that would yield so small a weight of wax as to make them worthless for melting down" (*vide* B.B.J., vol. xxxi., page 49). What was true in 1903 is probably correct in this year of grace. It must be remembered, too, that wax obtained from the rendering of fresh combs may find a ready sale owing to its good colour, or it may be again converted into foundation for future use in the apiary.

To my mind it is quite apparent that fresh combs, whether considered from the utilitarian, zymotic, or commercial side, are among the most precious possessions a modern bee-keeper can desire, and I trust Mr. Farmer's practice will be followed by a still larger number of bee-keepers.—WILLIAM RICHARDS, Gabalfa, Cardiff. Midsummer, 1907.

A RECORD SEASON.

[6773.] I call the present season a record one, but unfortunately the record is not one which bee-keepers like. In fact, I can fully endorse the reports of Mr. Best and Mr. Pidduck in your issue for June 20. For over a month the weather here has entirely prevented an examination of stocks, and they got short of food. Some very fine strong colonies in my apiary ceased breeding entirely, and contained no brood when examined. The most forward ones at present were among the most backward six weeks ago. It seems as if I shall have to unite every two stocks in order to get a harvest. A friend a few miles away with an apiary of fifty-two stocks is in exactly the same condition as myself, while other bee-keepers nearer to me are in many cases worse off, and cannot hope to get any harvest at all. It has been a most unfortunate season in Cornwall generally. Those who continued feeding all the time the bad weather lasted will have done better, but such are few. On the whole, then, I may say the signs of a good honey-flow later are at present not encouraging. Very soon the meadows will be cut, and then our surplus food area will be sadly diminished at the wrong time. We have no food supply here apart from clover and wild sage.

Honey will certainly be very scarce here this season, and is likely to be so all over the country. Prices should, therefore, be good, and for once it should not be necessary to bewail a congested market. The fortunate few should do very well, and hold out for a good price.

The lack of food has not been the whole cause of failure. Such bees as ventured out often never returned, owing to high winds.

The season will perhaps last later, and give us some little chance of recovering ourselves; but at best it is a record year for badness. Experts could of course not do their usual rounds, and cannot be blamed if they fail to visit at all in some cases.—W. J. Farmer, Redruth, June 22.

POSTAL MISHAPS IN IRELAND.

AN EXPLANATION FROM CO. LIMERICK.

[6774.] We have just discovered that during the past three weeks all our letters addressed to the "Cruadh" Apiary, Ballyvarra, have, through some inexplicable postal blundering, been returned through the dead letter office to senders. Postcards have been torn up by the postal authorities. This state of affairs only came to our knowledge yesterday, and might well have gone on indefinitely. The matter has already been put into the hands of the Postmaster-General, and we trust there will be no further annoyance of a like kind. Many bee-keepers among your readers must have been inconvenienced thereby, and we shall be greatly obliged if you will publish this letter in next Bee Journal and also in July *Record*. Thanking you in anticipation. C. G. R., Ballyvarra, June 29.

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

Prevention Better than Cure.—The editor of *Gleanings* writes these wise words:—"While we have no foul brood at Medina, yet we have taken precautions to give our empty hives a hot steam bath and a painting inside with crude carbolic acid, and, what is most important, we are fumigating all empty combs with formaldehyde. Any old or imperfect combs are melted up into foundation. We are constantly re-combing, and almost constantly disinfecting. We consider it very important that any queen-breeder or shipper of bees should not only have a clean bill of health, but that he should be taking preventive measures in order that if the germs of disease do work themselves in, they may be destroyed before they do any damage."

A Plurality of Queens. The truth of the old adage that there is no new thing under the sun is proved again. A prominent bee-keeper recorded quite recently that it was quite possible to keep more than one queen in one brood-nest without using any perforated zinc or division-boards, and immediately there rises a chorus of claimants for at least a participation in the knowledge. One writes:—"I have just seventy-three laying queens in ten-frame hives at this very moment no mothers and daughters either." I confess I am sceptical, with an open mind, however, as to its being commercially practicable.

Saving Combs from Moths.—Mr. Byer describes in *Canadian Bee Journal* how he saves his combs from being infested with this, at times, troublesome plague:—"Carry your combs into a building, and stack them up five or six stories high. Put a quantity of bisulphide in a shallow tin on top of all, and cover securely, and you will be surprised to find how little of the drug is required to treat a large number of combs. Sulphur may be a trifle cheaper, but it does not destroy the moth-eggs, consequently it has to be used more than once." If sulphur is used, it has to be placed *below*. A periodic fumigation, if carefully done, is quite effective.

Accumulating Evidence.—The editor of *Gleanings* confirms two facts well known to bee-keepers in this country:—"As heretofore, so this year, the Golden Italians have suffered from spring dwindling more than all the other bees in our yards, notwithstanding some of them were populous the previous fall, with plenty of good stores and protection. In this connection it seems to be quite clear that the black races are good bees for a bad spring." I had a valuable Golden queen last year. She did excellent work for about two months, but mysteriously disappeared in early autumn, leaving no successor. A neighbouring bee-keeper also had one, which safely pulled through the winter, but what happy land she now inhabits nobody knows. She, too, has most mysteriously disappeared, leaving the hive queenless. This is the third venture in three successive seasons where the same "ill luck" was experienced.

Some "Kinks."—1. "To remove propolis from the hands use borax, put the hands in warm water, dust some borax on them, and then rub the dry powder well over the hands. The grit just loosens the sticky stuff nicely, when it will all wash off. Try it, and you will be glad."

2. "I paint the covers of my hives with three coats of boiled oil and Portland cement. It hardens like stone, and covers do not leak. I have some covers and hives that were painted this way thirteen years ago, and they are good to-day. Mix like paint. The last coat is sprinkled with cement. Rub it in with the hands." Mr. Root adds:—"Such paint is excellent, as we know from tests."

3. "In uniting a weak colony with a strong in spring to strengthen the weakling proceed as follows: Put on the excluder, then put screen well over that, and set the weak colony on that. In twenty-four hours lift the weak one, and quickly and gently remove the screen-wire, then very gently return the weak-

ling, when not a bee will be killed. After about thirty days remove the strong colony to a new stand, leaving the formerly weak one, thus giving it all flying bees, when you will have two strong lots." This, the Alexander plan, proves frequently a failure, chiefly because too much fuss is made, thus rousing the strong colony. Use little or no smoke, and the temporary use of the wire screen must be a safeguard until both lots attain the same colony odour. Has the plan proved a success in this country?

Quilts. At the Chicago Convention the question was asked, "Are quilts worth enough to bother with?" and as a result of voting in favour of quilts, enamel-cloth, or *naked* frames, the numbers stood none, five, twelve. Marvellous!

Queries and Replies.

[3539.] *Superfluous Drones in Hive.*—In April I purchased a last year's swarm of bees in a straw skep and carefully protected them until the warmer weather arrived, which was just a few days ago. They were very strong, and had a large supply of stores; but they grew lighter, and the backward weather this season has greatly diminished their food; but now that the weather is mild and warm in this district the bees are going strong and are busily engaged gathering pollen, and presumably honey; but what puzzles me greatly is the fact that there is a great number of drones leaving and entering the hive, but still the workers are very numerous and going on strong and lively. Being only a beginner, I shall be obliged if you will give me what information you can regarding this, and if anything should be done. Your advice would be greatly esteemed. I have counted as many as thirty to forty drones entering the hive in a single minute for nearly half an hour at mid-day, and I must say this only occurs at intervals during the day, and I always understood that such quantities at this season of the year is unusual. The weather has been so backward this spring and early summer that no swarms have come off as yet in the district, for which I have ready three empty frame-hives, intending to increase my stock this year. Thanking you in anticipation of an early reply in your JOURNAL.—JAS. GORDON, Abeille, Strathspey.

REPLY.—We can only suppose that the abundance of drones in the hive in question is due to superfluous drone-comb in the brood-chamber. Your best course, therefore, will be to put up with the present trouble as the time is unsuitable for dealing with it and take the earliest opportunity of getting rid of the frames in which the drone-cells appear and replace them with full sheets of worker-foundation.

[3540.] *Trouble with Bee Diseases.*—I am sending you in the attached box two samples of brood-comb from two of my hives, which I will ask you to kindly examine and give me your opinion as to what is the matter with them. I feel sure it is not *B. alvei*, for I have had experience with that; and, as you will see, this is quite different. Whatever it may be, it is, I fear, very contagious. I noticed it in one of my hives last year, but did not think much harm of it. I thought it looked like chilled brood somewhat, but did not see how it could have become chilled. The stock that had it did nothing in super, as it did not get strong. I now find it more or less in nine or ten hives, and although it does not as yet affect much of the brood, it is very noticeable that the colonies containing it do not pull up as they should; they lack the vim evidenced by good colonies. I am feeling rather alarmed about it. I can deal with *B. alvei*, and have not much dread of it, but this is new and strange to me. I keep naphthaline in all hives, and have been feeding some of them with medicated syrup, but it seems to have no effect in preventing the spread of this disease. You will notice that the young larvæ do not show it, but when they reach the imago stage and should be sealed over they are dead, and if not soon removed by the bees they turn black. Some that I have removed from the cells have been of a greenish hue, which I supposed were in process of change from the white to the black dry stage. I saw by the JOURNAL that at the recent conversazione you had samples of a disease called "black brood" handed round, and am wondering if this is the same thing. I have a mind to destroy the lot, but will await your advice. As an alternative to destruction, would it be any use to get the bees off the combs, starve them thirty-six hours, and put them in clean hives on new foundation, uniting two or three together and feeding on medicated syrup? Or would spraying with phenyle solution do any good? I presume that would destroy the surrounding healthy brood, would it not? I cannot find anything in back numbers of the B.B.J. that quite fits my case, and shall be grateful for all the light possible. Please reply to W. H., Berks.

REPLY.—From the appearance of dead brood in cells and the details given above we think there seems to be no doubt that the hive from which comb was taken is affected with black brood. It will therefore be advisable for you to read up what appeared in our pages not long ago on this disease and act upon the information therein with regard to treatment of all your stocks.

[3541.] *Dead Larvæ Cast Out of Strong Stock.*—For some weeks past my strongest stock has been throwing out dead grubs, not in quantities, but three or four at a time. Can you give a reason for this? They miss several days, and then one or two more are cast out. On examining the hive the other day I found a few dead grubs in the comb; and, as far as I can judge, being a novice, could see no indications of foul brood. Do you think it would be due to the cold weather? An answer will greatly oblige.—T. E. POOL, Hants.

REPLY.—The trouble simply arises from the adverse weather prevailing for several weeks past. No further mischief may occur, and no doubt all will come right with a little warmth and sunshine.

[3542.] *Queens Delayed in Oviposiling.*—Please let me know how long after a swarm has been hived the queen ought to begin laying eggs? I hived a swarm a fortnight ago, but can see no sign of eggs. I therefore ask: 1. Does this mean that the swarm is queenless, and should therefore be united with another before it can be of any use? 2. As I desire to prevent increase of stocks, is it a good plan to return swarms, at the same time preventing the queen entering with the bees by means of placing a strip of queen-excluder in front of entrance? 3. If not, what is the best way of dealing with swarms where increase is not desired?—W. R. L., Biggleswade.

REPLY.—1. Without being certain that the hived swarm is queenless, from the fact of no eggs being found in combs (some of which, of course, should be built out), it is evident that something is wrong with the queen if she is still there. Had the queen not been hived with the swarm the bees

would have returned to the parent stock at the time. The inference is that some mishap to the queen rendered her incapable of egg-laying. You should again examine the combs and see how matters stand, then unite the bees to another swarm if no eggs or brood are found. 2. Yes, after cutting out queen-cells, but on no account should swarms be returned, as proposed—*i.e.*, by using queen-excluder zinc over entrance. That plan has been tried, and always fails. 3. Either cut out queen-cells, as stated above, or follow one of the other plans as directed in the "Guide Book."

[3543.] *A Beginner's Experience of Foul Brood.*—Being interested in bee-keeping and a constant reader of the B.B.J., I am writing to ask if there is a Bee-keepers' Association in Cornwall. At the same time, I would like to give your readers a short account of my experience with bees, which has, so far, been rather disappointing. My first stock, which I bought in August, 1905, was examined by an old bee-man, who pronounced it to be free from disease; but by the following May it had developed foul brood so badly as to be worthless. I destroyed the stock, and having thoroughly cleansed and disinfected the hive, frames, &c., I made two new hives, which I stocked with driven bees obtained by driving skeps for cottagers. I also bought a skep at a sale. My apiary thus consisted of three frame-hives and one skep, all of which were quite healthy. When packed for winter I fed them with medicated syrup, and they came through the winter well, showing great activity during the spring. One hive in particular had ten frames well covered with bees, working early and late. Before putting on a rack of sections a few days ago I examined the brood-nest, and found, to my dismay, the old enemy had returned, a number of cells in the frames showing distinct traces of foul brood. I believe the three frame-hives as well as the skep to be affected, as the latter, being small, should have swarmed before this. The bees are in the sections drawing out the foundation. Would you advise treating at once, or waiting till the end of the season? The cause of this outbreak is not far to seek, as I have discovered that several bee-keepers whose bees have died off have left their hives with entrances open standing in their gardens, thus attracting every passing bee; while some even place old hives there with the object of decoying swarms. I am afraid it is impossible to keep bees in this district free from the much-dreaded pest, foul brood. My disappointment is great at having the evil to again contend with, as bee-keeping affords me intense pleasure.—A. J. B., Cornwall.

Reply.—We advise you to leave the strong stocks now working a rack of sections till end of the season, and be guided so far as the future is concerned by its condition at end of August. The skep can be of no service whatever, and it should be destroyed and the remains buried a foot deep to prevent a further outbreak. There is a B.K.A. in Cornwall, the hon. sec. being Mr. T. R. Polwhele, Palwhele, Truro.

Bee Shows to Come.

July 17 and 18, at Burton-on-Trent.—Honey Show of the Staffordshire B.K.A. Special prizes, including five Open Classes. Prizes, 20s., 10s., and 5s. Single 1 lb. Jar and Section (entry free). Schedules from Joseph Tinsley, Expert, Chebsey, near Stafford **Entries still open.**

July 24, at Ashby-de-la-Zouch, Leicestershire.—Show of Bees, Honey, and Appliances, in connection with Annual Flower Show. Three Open Classes, two Local Classes, and one L.B.K.A. Bee Demonstrations, Lectures, &c. Sec., J. H. Dunmore, Alandale, Ashby-de-la-Zouch. **Entries close July 22.**

July 24, at Middle Wallop.—In connection with the Horticultural Show. Open classes for Honey: Best 1-lb. Jar Extracted, Best 1-lb. Section. Schedules from Pryce E. Roberts, Schoolhouse, Nether Wallop, Stockbridge. **Entries close July 17.**

July 24 and 25, at Cardiff.—Annual Show of the Glamorgan B.K.A., in connection with that of the Cardiff and County Horticultural Society. Honey, Wax, Appliances, &c. Classes for members, novices. Five open classes, with prizes for Sections and Extracted Honey (light), 21s., and Bee Appliances, 40s. and 20s. Entry fee for one or more of the open classes to non-members, 2s. 6d. Schedules from Wm. Richards, Hon. Secretary, The Red House, Gabalfa, Cardiff. **Entries close July 20.**

July 25, at Tiverton.—Annual Show of the Devon B.K.A., in conjunction with the Tiverton and District Agricultural Association. Open classes. Schedules from R. W. Furse, Hon. Sec., Woodbury, R.S.O. **Entries close July 9.**

July 31, at Henbury, near Bristol.—Annual show of Honey and Wax of the Henbury District Bee-keeper's Association, in connection with Horticultural Society's Exhibition. Seven open (three free) classes, good prizes. Bee Demonstrations. Schedules from Hon. Sec., F. E. May, "Bellasis," Stoke Park, Westbury-on-Trym, Bristol. **Entries close July 24.**

July 31, at Upwell, Wisbech,—Horticultural Society's Show. Open classes for Honey, including gift class for 1-lb. jar. Schedules from Hon. Sec., J. Hy. Inman, Upwell, Wisbech. **Entries invited.**

August 5 (Bank Holiday).—Annual Honey Show of North Norfolk B.K.A., in connection with the Melton Constable Horticultural Association. Schedules from C. J. Cooke, Edgefield, Melton Constable. **Entries close July 27.**

August 8, at Abingdon Park, Northampton.—Honey Show of the Northants B.K.A. Two Special Classes, including one for single 1 lb. Jar Honey. Entry free. Prizes, 20s., 10s., 7s. 6d., and 2s. 6d. Schedules from R. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 3.**

August 8, at Madresfield, Malvern (Madresfield Agricultural and Horticultural Society).—Annual Show of the Worcestershire B.K.A. Open Class. Schedules from Geo. Richings, 2, Shrubbery-terrace, Worcester. **Entries close August 3.**

August 8 to 10, at Barnsley.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. **Entries closed.**

August 14, at Wye (Kent Honey Show).—Five Classes open to the United Kingdom. Trophy Cup value £3 3s. (entry 1s.), 1 lb. Section, 1 lb. Light Run, 1 lb. Dark Run, 20s., 10s., and 5s. in each case (entry free); Beginner's outfit, retail price not to exceed 30s. (entry free). Open to Kent only (fourteen Classes): President's Challenge Cup, value £6 6s., for 6 1 lb. Sections and 6 1 lb. Jars Extracted Honey. Money prizes for 6 Sections, 6 Jars Light, 6 Jars Medium, 6 Jars Dark, 2 Shallow or Standard Frames, 3 Sections and 3 Jars, Beeswax, Mead, Candy, Cake Sweetened with Honey, Display of Cut Flowers, &c., &c.; two Special Classes for Cottagers. Schedules of J. Tippen, Secretary, Wye, Kent. **Entries close July 31.**

August 16, in Public School, Portwilliam, Wigtownshire.—Honey Show in connection with the Horticultural Society. Classes for Sections and Extracted Honey, open to amateurs and cottagers. Challenge Class (open to all) for 3 1 lb. Jars Extracted Honey, prizes 20s., 12s., 8s., and 4s. Schedules from Secretary, Horticultural Society, Portwilliam, N.B.

August 21, at Lancaster.—Show of Honey, &c., in connection with the Lancaster Agricultural Society's Annual Show. Open Classes for Extracted and Comb Honey, also Beeswax and Produce. Challenge Cup value £5 5s., also six silver and bronze Medals, and other Specials. Schedules from Thos. Armitstead and Son, Auctioneers, Lancaster. **Entries close August 7.**

August 21, at Radstock.—Annual Show of the Somersetshire B.K.A., in connection with the Radstock Horticultural Association. Seven open and two free classes; good prizes. Schedules from Herbert J. Moore (Show Secretary), Foxcote, Radstock. **Entries close August 14.**

August 21 and 22, at Shrewsbury.—Shropshire B.K.A. Annual Show, in connection with the Shropshire Horticultural Societies' Great Floral Fête, in the Quarry, Shrewsbury. Nine Open classes for Honey and Wax. Free entry for single 1 lb. jar and single 1 lb. section. Schedules from S. Cartwright, Hon. Sec., Shawbury, Shrewsbury. **Entries close August 9.**

August 28, at Chester (Cheshire Agricultural Society's Show).—Bee and Honey Department, under management of the C.B.K.A. Open classes for Hives, Sections, and Extracted Honey. Increased prizes. Members' classes, District class. Special prizes offered by Chester Tradesmen's Association. Schedules from T. A. Beckett, St. Werburgh's-chambers, Chester. **Entries close August 7.** Post entries at double fees to **August 14.**

August 28 and 29, at Rugby (Warwickshire B.K.A.).—Show of Honey and Bee Appliances, in connection with the Annual Show of the Warwickshire Agricultural Society Schedules from Jas. N. Bower, Hon. Sec. Warwicks. B.K.A., Knowle.

September 5, 6, and 7, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-five Classes (nine open to all). Increased prizes and medals. Schedules from F. B. White, Secretary, Marden House, Redhill, Surrey. **Entries close August 22.**

Sept. 25, at Altrincham.—Honey Show, in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom: For Best Hive, Observatory Hive, with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester: Classes for Trophy of Honey, Amateur-Built Hive, two Shallow Bars, Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low Entrance Fees. Schedules from Mr. J. Herbert Hall, 2, Dunham-road, Altrincham. **Entries close September 7.**

Notices to Correspondents.

J. W. S. (Louth).—*Home-made Swarm-box.*—A simple and suitable box for the safe transit of bees can be made from a used box to be had from your grocer for a couple of coppers. For size, its capacity should equal that of an ordinary straw-skep. Cut holes 4 in. by 7 in. in the sides and bottom of box, and cover these with perforated zinc on the insides. Nail on to lid and bottom battens of wood about 7 in. square on the outside of each. This completes the box. When the swarm is got into it, fasten the lid on with screws (not nails), and tie the box up with a stout cord for carrying by. Let it travel bottom upwards, with a bold label attached, "Live Bees, with Care."

Novice (Southport).—*Preserving Store-combs from Wax-moth.*—We have already promised another correspondent troubled in the same way as yourself to give particulars of a simple method of preserving combs, with illustration of the appliance used. It will appear shortly, so please refer to B.B.J. for same in an early issue.

C. J. L. (Wellingboro').—*Transferring Bees from Skeps.*—The refusal of bees to transfer themselves to the frame-hive below must be attributable to the queen not requiring room for egg-laying. If you have carefully carried out the instructions given in "Guide Book," viz., by fitting the frames with full sheets of foundation, and made the frame-hive as snug and warm as possible, the bees would certainly have removed the brood-nest below if the queen needed an extension of her brood-nest. Perhaps the adverse weather of late has prevented progress being made.

A. B. (Birmingham).—*Bee-keeping Gardeners.*—As put by yourself, the case certainly seems one-sided, though the management of only three stocks of bees should not occupy very much of an expert's time. The point is—Did the employer specially engage "A" because he was a certified bee-expert, and, in addition to assisting the gardener, wish "A" to prove his claim to that title by making the bees *pay*, as stated? If so, "A" is unfairly treated if "B," the "new gardener," who is a newcomer, does not allow "A" the necessary time for attending to the employer's bees properly.

Beginner (Yorks).—*Queen-mating.*—The dead drone sent had evidently mated with a queen. It is not at all unusual for a few dozens of dead bees to be cast out in spring and early summer, but this need cause no alarm.

M. O. (Bakewell).—*Packing Hives for the Moors.*—It would take up too much space to describe in full the method of packing hives for safe transit to the moors, and as it has been done in former numbers of our journals, you could have a copy sent from office for its price in stamps.

J. Chandler (Blackheath).—*Age of Queen-bee.*—The bee sent is a young queen of the ordinary native variety. Kindly send photo on, and, if suitable, we may include it in our "Homes" pictures when the busy season is over and we resume publication of same.

Suspected Combs.

E. L. P. (Rock Ferry).—Sample shows a by no means "mild case" of foul brood, as supposed. It is in pronounced form, and of old standing in two or three cells, but appears to have been kept under by preventive remedies. We advise prompt removal of every cell containing brown, ropy matter, such as we found, and keeping close watch over the hatching brood, as before.

W. G. (Mansfield).—We find no disease in comb sent. The dead brood in cells is in normal condition, and nearly ready for hatching out. It appears to be simply dead from cold. Reverse side of comb is perfectly empty.

K. W. (Yorks).—Foul brood is just developing in sample of comb.

Doubtful (Dorset).—Comb contains only chilled brood.

J. T. J. (Chedworth, Glos.).—No disease in sample of new comb sent. The dark colour of some capped cells is caused by the dead larvæ turning black in colour, as always happens with chilled brood after death.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

SECTION GLAZING.—Best quality neat patterns in lace paper, made especially to my order (not common thin box edging). White, 1¾in. wide, 100 6d., 500 2s. 3d.; Pink, Green, Blue, 100 7d, 500 2s. 6d.; Lace Bands, White, 2⅞, 3, and 3½ in. wide, 100 1s. 3d., 500 4s. 6d.; Pink and Pale-blue, 100 1s. 6d., 500 6s. Cash with order; post free.—W. WOODLEY, Beedon, Newbury.

SITUATION WANTED by Handy Man; Bees, Garden, Carpentering; certificated; abstainer.—SHORT, Great Barr, near Birmingham. a 32

DOOLITTLE STRAIN GOLDEN QUEENS. Virgins, 1s. 6d. by return post; Fertiles, 5s.; safe delivery guaranteed; Nuclei, with 1907 Fertile Queen, 12s. 6d., packed free, box returnable.—D. TAYLOR, Ilminster. a 30

DRIVEN BEES, guaranteed healthy. Orders now booked; delivery in rotation; 1s. 3d. per lb., f.o.r. Boxes to be returned. Cash with order.—T. D. SINFIELD, 26, Upper George-street, Luton. a 38

Special Prepaid Advertisements.—*Continued.*

BEES.—A few Stocks Wanted.—Particulars to DAVID HUNTER, Craighead, Abington, Lanarkshire. a 37

FOR SALE, complete little Apiary of 10 Stocks Bees, in Bar-frame Hives; splendid opportunity for beginner in the neighbourhood of Hereford or Leominster.—Apply early to S. MITCHELL, Bodenham, near Leominster. a 36

"NONDESCRIPT" Device for Prevention of Foundation Stretching and Repairing Faulty Combs; sample set, P.O. 1s. 1d.—W. PALMER, Gate House, Maghull, Liverpool. a 35

HEALTHY DRIVEN BEES, commencing August 1, 3s. 6d. per lot, with Queens; boxes to be returned; orders rotation.—T. PULLEN, Ramsbury, Hungerford. a 34

WANTED, New Sections, first quality; prompt cash.—W. CHILTON, Southdown Apiaries, Polegate, Sussex. a 33

STRONG NATURAL SWARMS, guaranteed healthy, 12s. 6d., packed, safe delivery.—CADMAN, Codsall Wood, Wolverhampton. a 31

FOR SALE, 13 7-lb. tins Light-coloured Extracted Honey, at 56s. per cwt., carriage paid.—BENNETT, Birch Vale, via Stockport. a 29

VIRGINS, from Sladen's strain, 1s. 9d., fertiles (shortly) 5s. 6d., Nuclei 12s. 6d—PAUL, Salisbury-road, Bexley. a 28

SECONDHAND "WELLS" HIVES, waterproof roofs, worked successfully. Price 12s. 6d.—HORN, Bedale, Yorks. a 26

QUEENS, choice 1907, bred from my non-swarming stocks, 3s. 6d. each, per return; 3-frame Nuclei, with young laying Queen, 7s. 6d.—TAYLOR, Boldmere, Wylde Green, Birmingham. a 20

QUEENS, BLACKS, CARNIOLANS, GOLDEN-ALL-OVERS, ITALIANS, by return mail; guaranteed satisfaction with every Queen, also safe arrival; Virgins of above ready now. Descriptive list post free.—CRUADH APIARIES, Ballyvarra, Co. Limerick. a 17

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw-cap jars, 77s. gross, 21s. ¼ gross; ½ lb. ditto, 45s. gross, 13s. ¼ gross; Honey in bulk, 48s. cwt.; samples, carriage paid, 8d. Further prices and particulars on application.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 74

HONEY JARS.—We have contracted largely for special well-finished machine-made screw-top jars, each washed and wrapped in paper, complete, with caps and cork wads, 15s. 6d. gross, 43s. 3 gross; ½ lb., 12s. 6d. gross, 37s. 3 gross.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 75

THREE-FRAME NUCLEI, 1907 Laying Queen, 10s. 6d.; or Stocks on Six Frames, 18s.—HEMMING BROS., Standlake, Witney. a 11

BRICE'S 1907 HYBRID QUEENS, tested, 5s. 6d.; Virgins, 3s.; safe arrival guaranteed.—HENRY BRICE, Brigstock-road, Thornton Heath. a 13

TILLEY'S PATENT ("Won't Leak"), 2 lb. Sections, may be used with the ordinary Sections; sample, with particulars, 6d.—M. H. TILLEY, Bee Farm, Dorchester. a 10

30 STOCKS CARNIOLAN BLACK HYBRIDS for sale, 8 Frames, after Abbott's pattern, 6 of Brood, 1906 Queen, Combs from full sheets, wired. Free on rail, cases returnable, 18s. each; cases free, £1 each.—SHAW, Eden House, Sedgefield, co. Durham. a 15

STRONG NATURAL SWARMS, 1906 Queen, 12s. 6d., 13s. 6d.; 3-Frame Nuclei, 1907 fertile Queen, 12s. 6d.; Stocks, in Skeps, 1906-07 Queen, 12s. 6d., 13s. 6d.; Stocks, on ten Standard wired Frames, 25s.; fertile Queens, 3s. 6d.—W. WOODS, Normandy, Guildford. z 87

Special Prepaid Advertisements.—*Continued.*

BEE-KEEPERS' NECESSITIES.—British Weed Foundation, Brood, 2s. 5d. lb.; Super, 2s. 9d.; 5 lb. 1d. lb. off, 10 lb. 2d., postage 4d. first lb., 1d. lb. after; Hives, 7s. 6d., 18 by 16, for 10 Standard Frames, double walled back and front, 9 in. lift, telescope roof and porch; also Hives, ditto, 18 by 18, with dummy, sliding entrance, 9s. 6d.; self-adjusting Frames, 1s. 2d. doz., 8s. 100; "W.B.C." ends, 2s. 6d. gross, post. 4d.; Split-top Sections, 2s. 9d. 100; Section Racks, 2s. 6d.; Shallow Frame Crates, complete, 3s. Cash with order.—COX, manufacturer, Smallbrook-street, Birmingham. y 28

PROTECT YOUR FRUIT.—Tanned Garden Netting, only best quality supplied. Order promptly, as nets are scarce and must be dearer. 25 yds. by 8 yds., 50 yds. by 4 yds., and 100 yds. by 2 yds., 9s. each; add ten per cent. for other sizes.—L. WREN AND SON, 139, High-street, Lowestoft. y 39

GILLIES MARVELLOUS CONTROL-CLOTH, in vest pocket case, with clearly printed instructions for manipulation of Bees; two delivered anywhere, 7d. stamps.—43, Dawson-street, Dublin. Agents wanted. y 61

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester.

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order.—EDWARD REYNOLDS, manufacturer, Andover, Hants.

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Editorial, Notices, &c.

THE BEE-DISEASE IN THE ISLE OF WIGHT.

Owing to pressure on our space this week we are compelled to again defer publication of the report of the Board of Agriculture on the above subject till our next issue.

THE "ROYAL" SHOW AT LINCOLN.

(*Continued from page* 262.)

Class 412.—*Complete Hive for General Use.*—Five well-known makers entered exhibits in this class, Messrs. Abbott Bros., Southall, securing the first prize with a "W.B.C." hive, of which the material and workmanship could hardly be surpassed. Dovetailed throughout, and finished in the best possible way, every part fitted with greatest nicety, and it was a matter of opinion whether such high finish was really necessary in the construction of a bee-hive; but this could hardly be taken as a fault when the price of the hive was so moderate, viz., 24s. The second prize went to Jas. Lee and Son for their well-known hive of the same type, without the dovetailed corners, but in other respects a very complete hive; the third prize going to Abbott Bros. for a capital hive, similar in many respects to their other exhibit in the same class, the design, material, and workmanship being equally good. Some of the hives in this class appeared to rely on their "complications" (well intended, no doubt) for securing the favour of judges, apparently forgetting that in a "hive for general use" simplicity is most desirable, while "good fit" and interchangeability are imperative.

Class 413.—*Complete Frame-hive for Cottagers' Use.*—The hives staged in this were very good in every respect, and wonderful value at the price stated (10s. 6d.), the three hives taking the prizes offered being a credit to their respective makers—Messrs. Jas. Lee and Son, Abbott Bros., and W. P. Meadows, in the order named.

One of the hives staged (3698) reflected seriously on the maker if he imagined that judges could tolerate a hive in which the wood used was only half planed; some parts had not even the outside slats removed.

In the class for *New Appliances Connected with Bee-keeping*, Mr. W. P. Meadows secured the first prize for an excellent extractor for taking either shallow-frames or sections, but not large enough for standard frames. Seeing that the great majority of bee-keepers extract from shallow-frames only, this will meet a want in providing a smaller and cheaper machine that fills all requirements; it is sure to become popular, as it is on the "Cowan" reversible principle. The second prize was given to Mr. F. W. L. Sladen for an ingenious but simple arrangement of a twin-frame for queen-raising while forming a nucleus-hive and for queen-mating. It is, so to speak, a "pocket-hive." A certificate was given to Messrs. Abbott Bros. for another twin-frame hive, which had a useful arrangement accommodating three nucleus-hives under one roof.

[We shall have to defer completion of report till next week, having a good deal of ground still to cover in noticing the whole of so extensive a show.]

REVIEWS OF FOREIGN BEE-JOURNALS.

By "Nemo."

Dissection of Queens.—M. Weygandt gives a very simple method of dissecting a queen in *Deutsche Illustrierte Bienenzeitung*. If he finds a dead queen his practice is to ascertain if she was fertilised. He takes hold of the thorax and the attached part of the abdomen between the thumb and forefinger of the left hand. Then with small pliers he gets hold of the point, the last segment of the abdomen, and pulls from left to right. The two last segments, which are firmly joined together, and contain the seminal vesicle, easily separate from the rest of the body. Placing this on a board or piece of cardboard, and pressing it slightly, the vesicle is forced out, and can be examined at leisure. He then takes a very fine needle, and pierces the receptacle. If a clear watery fluid exudes, the queen has not been fecundated. If, on the other hand, the fluid is opaque, darker, of a yellowish-brown, gelatinous or viscous, she has been properly fecundated. These observations have on several occasions been corroborated by microscopical examination.

Caucasian Bees.—A correspondent of the *Deutsche Illustrierte Bienenzeitung*, M. A. Shilling, alludes to this race of bees, that, he says, the Americans are praising, and which is to eclipse even the so-called Red Clover Queen. They have even sent out Mr. F. Benton to procure these bees for the department at Washington. This appeared necessary, as Dr. Phillips, who replaced Mr. Benton during his absence, stated that the only pure Caucasian queen they had was dead, and they were unable to obtain a further supply from the Caucasus. Mr. Pratt also asks Pfarrer Strauli of Switzerland where Caucasian bees can be procured outside Russia. Mr. Macdonald, of Banff, a contributor to the BRITISH BEE JOURNAL, looks upon these bees as worthless, but the Americans think that he has never

had a pure Caucasian queen, and therefore has been led into error. M. Shilling says he procured directly from the Caucasus a queen of guaranteed pure race, but he is not at all pleased with his purchase. She was no larger than any other, the extremity of the pointed abdomen was shining black, and she only had two and a half yellow bands fringed with grey hairs. She lived three years, and her progeny, which varied considerably, showed her to belong to a race of no fixed type. Most of the bees had only two yellow bands, others had only one, and lastly quite a large number were completely black, with no trace of yellow bands. Caucasian bees are as good workers as Italians, but persistent robbers, and, notwithstanding the amount of brood raised, the colony was always weak, and it is probable that the bees wore themselves out in working, and especially in robbing. They wintered very badly, and must be put into cellars to shelter them from variations in temperature. To sum up, they are not so good as Italians, and certainly very inferior to the common German bee.

[With reference to the above we would inform our readers that Mr. Root wrote to the Chief of the Bureau of Entomology stating that they had as yet received no information as to the result of Mr. Benton's trip in the East in search of new races of bees, and the reply is printed in *Gleanings*:—

"United States Department of Agriculture,
Bureau of Entomology,
Washington, D.C., May 29, 1907.

My dear Sir,—I am in receipt of your letter of May 16 asking for information concerning the results of the trip by Mr. Frank Benton in search of new races of bees.

I regret that I am unable to give you a report of this trip, since the Bureau of Entomology has received no such report from Mr. Benton, and he is no longer connected with the Bureau of Entomology. The only information which we have on the subject is a verbal statement from Mr. Benton to the effect that he found very few bees, and was unable to ship any of them to this country. The tone of his statement concerning them would indicate that they are not desirable.

Respectfully yours,
G. L. Marlatt,
Acting Chief of Bureau.

The A. I. Root Co.,
Mr. E. R. Root, Ed. *Gleanings in Bee-Culture*, Medina, O."

The above is sufficient explanation why nothing has been heard lately about these bees.—Eds. B.B.J.]

Cause of Dysentery in Bees.—M. Freudenstein says, in *Münchener Bienenzeitung*, that if bees do not get access to honey they consume an excess of pollen, which produces certain fermentable residues in the intestine, and before long the disease breaks out. He gives the following as the reason:—During winter bees cluster in the centre of brood-combs, which generally contain very little honey. Round this cluster cells contain pollen, and further still the winter provision of honey. Supposing that the supply of honey nearest to the cluster is exhausted, and the cold prevents the bees from getting access to that beyond their reach, and, starving from hunger and cold, they resort to pollen, which they consume in excess, the more so as the water and honey necessary for its proper digestion fail them. The undigested residues accumulate in the intestine, commence to ferment, and dysentery soon breaks out. The same thing happens if bees have access only to very thick honey or gelatinous honey like that from heather.

May Pest in Germany.—A. Shilling describes two phases of this disease in *Deutsche Illustrierte Bienenzeitung*, one occurring in June, which differed from that he had observed in April. The disease in June is a stoppage or constipation. The bees are seen leaving the hive with abdomen swollen, and most of them drop off the alighting-board on to the ground; others behave as though crazy, make constant attempts to fly, and at last drop from exhaustion. If salt water is offered the bees they are relieved, and as it does them good they take it readily, and the disease becomes cured. If the abdomen of a diseased bee is crushed there exudes a yellow mass having a bad odour. It is quite different from the disease that appears in April. In this case the bees have taken nothing but a small quantity of pollen and honey, although some of the symptoms of both diseases are similar. The bees try to fill the trachea with air, which workers do readily when the honey-sac is full. It is, however, very different when the chyle-stomach is stopped up with excrement which bees are not able to void. Filling the tracheæ with air is then impossible, breathing is impeded, and the bees are suffocated. M. Shilling thinks in this case there is a disease of the respiratory organs, which supposition is strengthened by the fact that such diseased bees always seek a warm spot to shelter in. He found this the case in straw hives, where numbers of dead bees were seen in the warmest part of the hive. In 1903 the outbreak occurred after the bees had been confined to their hives for three weeks owing to very bad weather. On April 21 thousands of bees were enticed out by the bright, warm weather,

having the symptoms described above. The floor-boards were covered with dead bees right up to the bottoms of the frames, and there were many dead bees among the combs, and the mortality continued until in May all bees were dead. Diseased bees brought into warmth seemed to recover for a time, but succumbed at last. M. Shilling placed a comb of brood from a diseased colony with a healthy one, and found that the hatching bees were diseased, showing, as he thinks, that the larvæ are affected, either through not being properly covered and becoming chilled, or through bees feeding on impure sugar or substitute for honey in brood-rearing. In this he agrees with F. Gerstung, who believes that feeding bees with improper substances is at the root of the evil. There is no cure for this form of disease, but as a prevention M. Shilling thinks bees should have good honey for brood-rearing and the hives kept warm As a substitute for pure cane-sugar, bee-keepers in Germany have been using fruit-sugar, which has been extensively advertised. This consists of glucose, and is not a fit food for bees, and probably has some connection with the prevalence of the disease in that country.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

NOT YET OUT OF THE WOOD.

[6775.] The memory of those two miserable months May and June will always be with me. Two fine bee-days in May, three in June—that marks the sum-total of even decent days embraced in the whole sixty-one. Hoped deferred began to make the heart sick. Day followed day with unbroken dull monotony, with weather cold, wet, unseasonable, keeping bees close prisoners, immense battalions of them doing nothing but counting their thumbs. Showers of hail were common to the closing days of June, hills were white many mornings, and frost was only too prevalent. I am not going to prophesy about the arrival of summer until I know, but just at present we certainly are not yet out of the wood. Drones, drone-brood, and in some cases immature bees were being thrown out up to the very end of June, showing as plainly as possible that stores had run short, and I am afraid many stocks would have dwindled, or even died out, where not attended to. In my own case, although my hives went into winter quarters with a superabundance of stores, several of them were found on June 28 without an *ounce* of honey. Not one of them had a spare pound. My system of feeding them, hastily resorted to, was not according to the books, but, although of the rough-and-ready order, it proved effective in the circumstances. I made syrup medium thick, and poured a cupful over the seams of bees between the frames after driving them down with a gentle puff of smoke. To-day, July 6, I have thus fed them, and there is not a sealed cell of honey in any of my hives! We have a cold nor'-easter blowing, with a low temperature, and not a bee looking outside.

"*Cappings of Comb.*"—As one who has "suffered" from the uncapping knife wielded by "L. S. C." I have pleasure in saying that whenever a questionable cell appears in my "comb," he, or any other writer, has my full permission to shave off the sealing, test the quality of the nectar, and pass his (or her) opinion freely on its aroma, flavour, and *consistency*—always premising that reciprocity is permissible. Personally, I have no corns, and am not, therefore, a tenderfoot. Let us always, however, extract honey or nectar, or even honey-dew—never venom; but a *little* formic acid may not be amiss, just sufficient to make the nectar "keep."

First-class Examinations.—I agree with those who take up the attitude that these examinations should not be made too simple. Only the best are qualified to secure this certificate and use it to full advantage, and so a ready fluency of speech should be retained as a *sine quâ non*. Candidates are expected to blossom into lecturers, and it would be a huge mistake to affix the Association's imprimatur on those unable to give a prompt, definite, and exact answer to any practical apicultural question propounded by a member of any bee-audience they may be addressing. A way out of the difficulty might be found in having an "honours" examination, made so stiff that only a few of the very best would be able to secure a pass. Under present regulations a first-class pass should be given to one with a first-class knowledge of the whole system of apiculture.

Clipping Queens.—This practice is rarely resorted to in this country, but if I were cursed with a swarming strain of bees determined to trek whenever they had worked up to their strongest and best, I would most certainly—although no advocate of the system—use the scissors and clip the queen's wing. Then, when she came out under the swarming fever impelling the bees to seek fresh fields and

pastures new, neither she nor the bees would give much trouble, because, being unable to fly far, she would miss the cluster, and the bees, being motherless, and lacking the bond that knit them into one community, would return safely to their old home. The queen, if a good one, could be utilised to head some other stock, caged for a time in the old hive, or pinched and killed. Sufferers like 6754 might try this plan.

The clipping process seems a simple one. Catch the queen in left hand, slipping finger under right wing, when a smart snap with a pair of sharp scissors does the work expeditiously and effectively. Some watch her majesty while she is parading on the comb, and when she graciously favours them by getting into the best position they deftly enclose the wing between the two blades of a surgeon's curved scissors, and in an instant the deed is done. I would counsel beginners to experiment somewhat extensively on drones before trying their hand on valuable queens.

"Isle of Wight Bee-Disease" Report.—I was favoured with an official copy of the *Journal of the Board of Agriculture* for June early in the month, and later a local newspaper was kindly sent me with a reprint. The perusal of the twelve pages of the Report leaves us much in the same position we were in before the investigation was made. It describes lucidly the geographical distribution of the epidemic, the losses sustained by many bee-keepers, the causes, effects, symptoms, and nature of the disease, but when it comes to the remedies or curative agents, tried or recommended, I fear no new light has been cast on the darkness shrouding the strange mystery. The illustration on page 135 of the *Journal* shows clearly that the very highly distended colon is the seat of the obstruction, and the constipation is so serious that nothing is able to pass the rectum. The extreme tension swells up the body of the bee to an abnormal size, causing a species of paralysis, but the cause of death appears to be blood-poisoning arising from the improper digestion and assimilation of the contents of the stomach and the accumulation of partly-digested food. The excess of pollen, together with the constant presence of the "yellow amorphous material," with some bacteria and "masses of wax?" seems to be a constant feature in the contents of the intestines of all bees examined. I would have some hope of further elucidation of the matter when the bacteriologists have finished their investigations into the nature of the contents of the intestines, and when the local bee-keepers have traced to their true source the particular kind of pollen which seems to be the true origin of the disease.—D. M. M., Banff.

CONTROLLING SWARMING.

[6776.] In answer to your correspondent "F. D. N." (6754, page 246), who refers to "the curse of swarming," I beg to give him the benefit of my experience in controlling swarming. Before the standard frame was fixed upon I had a number of hives on hand which were an inch or two deeper than was required for it, and by the time I made my first standard frame I had about thirty of these deep hives in use; and with them I had no trouble, for a swarm was with me a rarity. But as soon as I began to use the standard my troubles began, for swarm from them the bees would when working for sections. After a year or two of this I tried a box of shallow-frames on top of the brood-nest, after removing two outside frames and filling up spaces with dummies. This stopped the trouble, and in over twenty years since I did not have six swarms from these deep hives. I generally ran from thirty to forty-odd of them for honey, about half for sections, the others for extracted honey, and a large bell-glass or two. To increase stocks I year after year drove a number of skeps. The frames ran end on to entrance, which was full width of hive and $\frac{1}{2}$ in. deep. I took no honey off till the end of each season, as a rule. I usually had five or six racks of sections on each hive, or two or three full-sized boxes of brood-combs. The bees were natives, and I always took care to have every brood-frame full of brood before placing on the super. About half of the deep hives held thirteen frames, so there were sufficient bees to swarm if they had any mind to do so. My floor-boards were all fast to body-boxes latterly, as I found loose ones a nuisance when moving to and from the heather. Extra ventilation was given when necessary by wedging up supers at front a quarter of an inch.

I tried Italians two seasons and Cyprians one, but the natives beat them hollow. One bad quality of the Italians seems to be lost sight of, and that is their "sticky" feet. They will not be shaken off combs, while the natives drop off like ripe pears from a shaken tree. I often wonder why people buy the foreigners. It must be for their beauty, for I cannot see any other good quality in them. Reverting again to deep hives, in my hands they almost without exception came out better and stronger in spring, and were ready for supers before those taking the standard frame without any trouble. The latter were weaker in bees and required more "coddling," and often uniting, to get them ready for the honey-flow. How often we have read and heard that where a super has been left on

during winter that stock has been best in the apiary in spring! Name sent for reference.—NONDESCRIPT, Notts, June 24.

ROSS-SHIRE NOTES.

A DISAPPOINTING SEASON.

[6777.] The first week of July gone, and still it rains; still we feed. The term "keeping bees" has become very real, for we are keeping them—on sugar—at the very time when they should be helping to keep us. If this continues much longer we would fain have some Noah come along and bear bees and bee-men to a less tearful, more sunny land.

Neglected stocks are dying everywhere. No sections are on yet, and instead of, as in former years, piling up supers, we are diving deep into the sugar-barrel. All this is extremely disappointing, but we still hope on. Our bees have ample time to redeem themselves, and, deplorable as the present weather is, September must arrive ere the Northern bee-man can write "Ichabod" against season 1907. After ten years among the bees I have yet to experience the season that did not afford a honey-flow sooner or later. Even in 1902, that year of gloomy memory, although the actual surplus was trifling, still the late gathering sufficed to provide ample winter stores.

So, friends, never despair. Let not yourselves or your bees lose heart; make "feed and hope" your motto until the clouds roll by. Bees here are still in excellent condition, amongst the foremost being an Italian stock on "Reid" close-end frames. With the run of thirty frames in three stories the queen has her hive quite full of bees and brood, with a shallow-super on top also crowded. Mr. Reid is having his hives on view at the Highland Society's Show in Edinburgh, so our Southern friends will have an opportunity of seeing them and also their inventor, who is quite the largest bee-keeper in Ross-shire—I mean as regards number of colonies, not physically, of course.

Queen Introduction.—It is a serious mistake to introduce a queen direct from the mail to a colony while brood is being reared. Apart from the risk of rejection, the colony suffers through the eggless interval between de-queening and the period when the new queen gets into full lay—perhaps a week in all. Those who want an absolutely safe and thoroughly satisfactory introduction should try the following method:—On receipt of the new arrival, make up a two-frame nucleus, broodless, but having honey, pollen, and plenty of bees, place the mailing cage on frame-tops, so that the bees can eat out the candy and liberate the queen.

The nucleus can be confined indoors for two days, and then sent out where wanted, at the same time giving a frame of hatching brood. Directly this comb is seen well occupied with eggs, de-queen the full colony, and the same evening unite with it the nucleus and young queen. I have never lost a queen when given in this way.—J. M. ELLIS, Ussie Valley, July 6.

QUEEN-MATING

ON THE "SWARTHMORE" PLAN.

[6778.] I introduced two virgin queens three weeks ago, and I find that up to to-day they have not commenced to lay. They were introduced by the "Swarthmore" plan, as given in the JOURNAL recently—that is, by removing a super of bees and giving a virgin, then returning super next morning to old stand and removing the stock to one side. On examining one of these virgins to-day I fancy she looked a little more bulky, but there were no eggs present. How long would you advise me to leave them, and if they are not fertilised within a reasonable time, will they become drone-breeders? I might say that the weather has been most unfavourable here, but I saw one virgin make two trips of five minutes each a few days since.—J. J. M., Laxey, Isle of Man, June 30.

[In consequence of the very adverse weather prevailing during the whole of June we should give the virgin queens another week or more before doing anything at all with the hives in question. In fact, they should be left till a few days of mating weather comes round to give a fair chance of mating. Should they start laying at all while unmated they will certainly be drone-breeders.—EDS.]

A RECORD COLD SEASON.

REPORT FROM THE SOUTH.

[6779.] I can fully endorse Mr. Farmer's letter (6773, page 265) in last week's B.B.J. According to my bee-diary, we have only had nine warm days from May 1 to July 8—nearly ten weeks. As I write the fields are covered with the blossom of sainfoin, clover, and charlock, but there is a chilly wind, and I am still wearing my winter clothing. The bees are not storing any honey in surplus-chambers, though on May 12 a few swarms issued from extra-prolific stocks of cottager skeppists round about us, and I am told that where not fed these swarms have dwindled away. Ordinarily strong skeps have not swarmed at all, and I expect that driven bees, in this district at least, will be an unknown quantity.

At Easter my own hives were in prosperous condition, with 10 lb. to 20 lb. of stores in each. When examined on June 21 there was not an ounce of food in any of the hives, and the bees were just living on what they could get outside daily. One stock which had 14 lb. of stores and covered seven frames on April 8 was found starved to death! I always see that my stocks have 30 lb. of sealed stores in the autumn, and until this year this has sufficed to carry them through till the end of May, when the hawthorn blossom comes in; but it seems that if disaster is to be avoided the bees must be fed liberally after May 1 on every cold or wet day, otherwise the queens appear to cease breeding, even if there are stores in the hive. To obtain any surplus this year I think most colonies should be united—a thing easy enough to do in early spring, but less so in the long, light evenings of July. Last year at this date I was taking off racks of filled sections at an apiary several miles from home, whereas to-day the bees are scarcely up in sections, and many will not get up at all.—EXPERT, Cheltenham, July 8.

MANAGING SWARMS.

[6780.] In reply to your correspondent "F. D. N." (6754, page 246), his position is pretty much like my own, curtailing his apiary to a few hives, while having swarms from year to year; and his idea—like my own—seems to be to work his limited number of hives and get as much honey in sections as he can. I thought my plan might be of interest to him—not that it has anything original in it, nothing but what has been mentioned in your pages repeatedly. However, my neighbour bee-keepers here, along with myself, have adopted it with great success, and each year finds us with about the same number of hives. According to my experience, there is no effectual means of preventing swarming when working for sections or comb-honey. But when a swarm comes off and has been secured in a straw skep, the next part of the business has to be seen to, viz., getting a makeshift hive of some sort to receive the combs and bees of the parent stock. The latter is set near at hand, generally facing in the opposite direction. The swarm is hived on the old stand and in the old hive on foundation, or on clean, drawn-out combs. The flying bees all join the swarm, thus considerably weakening the parent hive in the makeshift. The latter is then gradually turned round until a week or eight days after swarming it stands side by side with the swarm, and on the morning of a fine day it is removed to an odd corner of the garden to re-queen itself, and its flying bees join the swarm again. After these removals no super is generally needed for the parent hive, and no "cast" or second swarm as a rule comes off. This makes a new stock if wanted for next season; but, if not, the bees can be profitably joined to another that needs help for wintering. If young queens are wanted, these swarmed hives are broken up into nuclei with three or four combs in each. If our friend adopted a system something like this, he would find it much better than putting his good swarms into skeps and his bee-keeping much more interesting, and his honey where he wants it—in the "sections." We find that swarms so treated yield about as much surplus as other stocks which do not swarm at all.

June has been a very unfavourable month here for bees, but hives are strong, only waiting for a change in weather conditions.—MAKESHIFT, Scotland, June 24.

WEATHER REPORT.

WESTBOURNE, SUSSEX,
June, 1907.

Rainfall, 2·76 in.	Minimum on grass, 37° on 4th.
Heaviest fall, ·83 on 30th.	Frosty nights, 0.
Rain fell on 17 days.	Mean maximum, 60·2.
Above average, ·68 in.	Mean minimum, 49·2.
Sunshine, 170·3 hours.	Mean temperature, 54·7.
Brightest day, 16th, 14·2 hours.	Below average, 2·3.
Sunless days, 0.	Maximum barometer, 30·210 on 17th.
Below average, 60·7 hours.	Minimum barometer, 29·422 on 1st.
Maximum temperature, 69° on 9th.	
Minimum temperature, 42° on 7th.	L. B. BIRKETT

JUNE RAINFALL.

Total fall, 3.21 in.

Heaviest fall in 24 hours, .50 in. on 29th.

Rain fell on 26 days. Alas!

W. HEAD, Brilley, Herefordshire.

Queries and Replies.

[3544.] *Making Artificial Swarms.*—Would you kindly give me a little information on the following: On June 8 I made an artificial swarm from a hive, and, taking away a frame of brood (on which was a queen-cell) for the swarm, I left the parent queen in the hive. I replaced the frame removed with one filled with a full sheet of foundation. On June 19, the bees were all crowding out and flying in an excited manner around the entrance, but they gradually quietened down and re-entered the hive. Then, on June 22, a very large swarm issued from the parent-hive, which I secured. On examining

the frames, I could not find any queen, but saw several queen-cells, and as there appeared to be plenty of room in the hive I decided to return the swarm. On preparing to do this, I found a fine young queen lying dead on the ground; I therefore left the queen-cells in the hive and caught the old queen as she ran in with the swarm. What I should like to know is: 1. Why did the swarm leave when there was plenty of room in the hive (on a cold day too)? 2. Why did they kill the queen that was left behind? 3. Did I do right in removing the queen, or should I have cut out the queen-cell and allowed the parent queen to enter with the swarm? I send name for reference.—Bee Cee, Forest Hill, London, S.E.

Reply.—The details given above are too vague on some points for us to diagnose the case accurately; but the result affords one more illustration of beginners departing from orthodox methods with the idea of improving on plans which are proved by experience to be safe and sound. We are not told where the "artificial swarm" was placed, whether two yards away, or twenty, and that makes some difference in accounting for what followed, because if the swarm was left on the old stand, and the parent stock—with its old queen—removed to a distant stand, it would make all the difference in the final result. Again, we are not told what became of the artificial swarm after the young queen hatched from the cell given to the swarm when made on June 8. So far, then, as we can judge on query 1, it seems that a good part of the flying bees left the swarm, and naturally returned to the parent stock left on the old stand, and the bees swarmed when ready to do so. 2. We cannot tell which hive is referred to, as there was no queen "left behind" in the new hive containing the artificial swarm—only a queen-cell. 3. In making the artificial swarm the directions in the "Guide Book" should have been carried out as given. In other words, the frame removed should have had the old queen on it, and this frame alone placed in the new hive, *on the old stand*. Had this been done, and the parent hive moved a couple of yards away, all would have gone on well.

[3545.] *Selling Honey.*—I have caught the bee fever. My one hive of three years ago has become fifteen stocks of bees. Now comes a difficulty. 1. How am I to dispose of the honey? I can get rid of about 100 lb. of it locally; but should be very glad if you could give me the name of any wholesale honey-buyer willing to do business. Possibly other bee-keepers would be glad to see your answer in the B.B.J. 2. I should also be glad to see your description of the method of fumigating store combs in shallow-frames, mentioned on page 248 of B.B.J., June 20, to No. 3532, appear in print this season.—Novice, Dunstable.

Reply.—1. We would gladly supply the names of buyers to all readers who have honey to sell, and cannot find a market for their produce, but, unfortunately, this branch of bee-craft is beyond us. Some readers can find customers for all the honey they can get, while others are perforce compelled to use our prepaid advertisement columns for this purpose, and it is for you to say which plan suits your temperament best. 2. The information you ask for will appear ere long.

[3546.] *Cutting Out Queen-cells from Swarmed Stocks.*—I had a very large swarm on May 23; it filled the skep three-fourths full. They were duly hived without a hitch on ten frames of comb-foundation in a clean hive. As an early honey-flow was just opening in the shape of scores of acres of field beans just coming into full bloom, I thought I was within the mark in expecting the swarm to yield two racks of section-honey, besides building-out and storing their brood-nest below, if the weather is fairly good. I may say, while the aforesaid swarm was marching into their new quarters, I and my assistant (my stockman-gardener, who is very intelligent and keen on bees), opened up two or three more of my nine hives, and, finding the first two stocks very strong in bees, added frames of foundation where needed, and put a rack of sections on each. When we came to stock No. 4—which had evidently swarmed—I went through all the frames one by one, and cut off all the queen-cells I could find, ten in number, and having done this, I ask: 1. Did I do right in cutting out every queen-cell, or should I have left one remaining? The old queen goes with the prime swarm, and a young, newly-hatched virgin queen therefore heads the parent stock. She would mate and have begun laying in the first week of June, and so I inquire: 2. Will the parent stock build up in time for the clover-honey, which ends in July, so that I might get a few sections from it, as I have added a rack, warmly wrapped up, in the pious hope of some surplus? The county expert removed two frames of drone-comb from centre of two stocks this spring. I am glad to say that I am free from foul brood at present, but am keeping a sharp look-out for it in hatching brood. It killed three stocks last year for me. I am just finishing six new W.B.C. hives that I have been making, having bought one as a pattern to work by, and hope to have them in use soon. My hives are rather a mongrel breed at present, but I hope to have nothing but W.B.C.s in use in my apiary. I am evolving an article in my head which I hope to send to you for publication, or for the "w.p.b." I am pleased to see that you print "Queries and Replies" in diamond type. Excellent idea. Ought to have been carried out long ago. I send name, and sign—East Saxon, Essex.

Reply.—1. If a young queen was found in No. 4, it was quite right to remove the queen-cells, if desired. 2. Hardly so in such a season as this. Your best course would have been to utilise the queen-cells by dividing the combs of the swarmed stock into about three nucleus colonies, giving a queen-cell to each.

[3547.] *Skep Robbed Out.*—Enclosed please find two pieces of comb taken from a skep bought last year. I may say it was robbed out this spring. I carried the skep into a shed, and took from it 6 lb. or 7 lb. of honey, some of which was crystallised, and the granules were scattered by the bees all over the floor-board. I also enclose some bees (alive), and will be obliged if you will say in the B.B.J. 1. if the comb is healthy, and would it do to send to manufacturers for turning into foundation? 2. Should I be safe in using honey as food for other bees? 3. Bees, as sample sent, go into the summer-house, and, failing to get out by the door, exhaust themselves in the vain endeavour to get through the glass, where I have found many torpid. Is this due to cold, exhaustion, or disease? Name sent for reference.—S., Yorks, July 1.

Reply.—1. We find no disease in comb, but being old and often bred in, there will not be much wax got from it. 2. Yes, if all combs are like your sample. 3. The bees simply exhaust themselves in the effort to escape.

[3548.] *Experts' Certificates and Examinations for Same.*—It is now some months since I wrote you re my experiences of bee-keeping in and near town. It may be remembered that in my letter (6622, page 65) I offered to assist anyone wishing to start, and am pleased to say that in response I had several callers at my place, besides others who corresponded with me on the subject, and I am pleased to say they have proved to be good recruits, who met with excellent success. This is very encouraging for beginners, especially considering the state of the season. I have been

much interested in the controversy re examinations for certificates, this being the aim of most modern bee-keepers, as I consider it to be the only way of finding out how far we are advanced in the craft. Therefore, I have one or two questions which may be useful to your new subscribers as well as to myself. 1. What is the subscription for a member of the parent association? 2. When do the examinations for third-class experts' certificates take place, and cost of same? I send name for reference, and sign—INQUIRER, London, S.E., July 5.

REPLY.—1. The minimum subscription is 5s. per annum. 2 and 3. Information with regard to dates for examinations can only be had from the Secretary, B.B.K.A., Mr. E. H. Young, 12, Hanover Square, London.

[3549.] *Are Bees a Nuisance?*—I have two stocks of bees in the window of a second-floor room in an empty house next door to my own. The tenant of the next house complains that herself and her cook have been stung, and she asks me to remove the hives! Can she compel me to do so? I might say that these bees in question are a particularly docile strain. The children (four) play and dig in the garden below, and have never been stung. I can also generally manipulate the bees without veil or smoke comfortably. Another man keeps bees in his garden a few doors further along; but as my hives are the nearest to my complaining neighbour, the lady naturally thinks that they are the offenders. I may add that one is a sort of observatory-hive, and is kept there for amusement.—EXPERT, Cheltenham, July 8.

REPLY.—We advise you to peruse the full account of "A Notable Bee-case," which appeared in our pages a few months ago, and form your own conclusions on the result of that action, so far as it is applicable to your own case.

[3550.] *Covering for Surplus-chambers.*—Will you kindly say in the B.B.J.: 1. Is it good policy to place sheets of paper (brown) over a rack of sections given to the bees to work on? I am told it is not. I placed a kind of a pillow filled with feathers over my bees when packed up for winter last. I am also told that was not right, and so. I ask: 2. Do you think I was wrong in so doing? Regarding my first question, my informant said: "Brown paper is airtight, and therefore not good in summer"; and to my second the reply was, "Not necessary," which is rather vague. The reason of my asking for your opinion is, I have not heard of anyone doing as above, but I do not think I am wrong somehow. Will you please a young hand with your reply?—JOHN JONES, Cowbridge, Glam., July 3.

REPLY.—1. Brown paper alone is too cold a covering for sections; but if warm coverings of any kind are laid above the paper, and well packed down at sides to conserve the warmth, it does very well. The main point is to make surplus-chambers of any kind as snug and warm as possible. 2. In very hot weather it is well to have light, porous coverings for surplus-chambers, but not in such cool weather, as we have had this summer.

Echoes from the Hives.

Cringletie, Peebles, N.B., June 27.—Owing to removing from Dumfries, I have not received the journal for last month, so do not know what sort of bee weather you are having south. Here it is more like March than June, with rain, more or less, every day. On June 25 the thermometer fell to freezing-point here, 600 ft. above sea-level. Feeding to keep bees alive.—H. MARRS.

Bee Shows to Come.

July 17 and 18, at Burton-on-Trent.—Honey Show of the Staffordshire B.K.A. Special prizes, including five Open Classes. Prizes, 20s., 10s., and 5s. Single 1 lb. Jar and Section (entry free). Schedules from Joseph Tinsley, Expert, Chebsey, near Stafford **Entries still open.**

July 24, at Ashby-de-la-Zouch, Leicestershire.—Show of Bees, Honey, and Appliances, in connection with Annual Flower Show. Three Open Classes, two Local Classes, and one L.B.K.A. Bee Demonstrations, Lectures, &c. Sec., J. H. Dunmore, Alandale, Ashby-de-la-Zouch. **Entries close July 22.**

July 24, at Middle Wallop.—In connection with the Horticultural Show. Open classes for Honey: Best 1-lb. Jar Extracted, Best 1-lb. Section. Schedules from Pryce E. Roberts, Schoolhouse, Nether Wallop, Stockbridge. **Entries close July 17.**

July 24 and 25, at Cardiff.—Annual Show of the Glamorgan B.K.A., in connection with that of the Cardiff and County Horticultural Society. Honey, Wax, Appliances, &c. Classes for members, novices. Five open classes, with prizes for Sections and Extracted Honey (light), 21s., and Bee Appliances, 40s. and 20s. Entry fee for one or more of the open classes to non-members, 2s. 6d. Schedules from Wm. Richards, Hon. Secretary, The Red House, Gabalfa, Cardiff. **Entries close July 20.**

July 25, at Tiverton.—Annual Show of the Devon B.K.A., in conjunction with the Tiverton and District Agricultural Association. **Entries closed.**

July 31, at Henbury, near Bristol.—Annual show of Honey and Wax of the Henbury District Bee-keeper's Association, in connection with Horticultural Society's Exhibition. Seven open (three free) classes, good prizes. Bee Demonstrations. Schedules from Hon. Sec., F. E. May, "Bellasis," Stoke Park, Westbury-on-Trym, Bristol. **Entries close July 24.**

July 31, at Upwell, Wisbech,—Horticultural Society's Show. Open classes for Honey, including gift class for 1-lb. jar. Schedules from Hon. Sec., J. Hy. Inman, Upwell, Wisbech. **Entries invited.**

August 5 (Bank Holiday).—Annual Honey Show of North Norfolk B.K.A., in connection with the Melton Constable Horticultural Association. Schedules from C. J. Cooke, Edgefield, Melton Constable. **Entries close July 27.**

August 8, at Abingdon Park, Northampton.—Honey Show of the Northants B.K.A. Two Special Classes, including one for single 1 lb. Jar Honey. Entry free. Prizes, 20s., 10s., 7s. 6d., and 2s. 6d. Schedules from R. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 3.**

August 8, at Madresfield, Malvern (Madresfield Agricultural and Horticultural Society).—Annual Show of the Worcestershire B.K.A. Open Class. Schedules from Geo. Richings, 2, Shrubbery-terrace, Worcester. **Entries close August 3.**

August 8 to 10, at Barnsley.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. **Entries closed.**

August 14, at Wye (Kent Honey Show).—Five Classes open to the United Kingdom. Trophy Cup value £3 3s. (entry 1s.), 1 lb. Section, 1 lb. Light Run, 1 lb. Dark Run, 20s., 10s., and 5s. in each case (entry free); Beginner's outfit, retail price not to exceed 30s. (entry free). Open to Kent only (fourteen Classes): President's Challenge Cup, value £6 6s., for 6 1 lb. Sections and 6 1 lb. Jars Extracted Honey. Money prizes for 6 Sections, 6 Jars Light, 6 Jars Medium, 6 Jars Dark, 2 Shallow or Standard Frames, 3 Sections and 3 Jars, Beeswax, Mead, Candy, Cake Sweetened with Honey, Display of Cut Flowers, &c., &c.; two Special Classes for Cottagers. Schedules of J. Tippen, Secretary, Wye, Kent. **Entries close July 31.**

August 16, in Public School, Portwilliam, Wigtownshire.—Honey Show in connection with the Horticultural Society. Classes for Sections and

Extracted Honey, open to amateurs and cottagers. Challenge Class (open to all) for 3 1 lb. Jars Extracted Honey, prizes 20s., 12s., 8s., and 4s. Schedules from Secretary, Horticultural Society, Portwilliam, N.B.

August 21, at Lancaster.—Show of Honey, &c., in connection with the Lancaster Agricultural Society's Annual Show. Open Classes for Extracted and Comb Honey, also Beeswax and Produce. Challenge Cup value £5 5s., also six silver and bronze Medals, and other Specials. Schedules from Thos. Armitstead and Son, Auctioneers, Lancaster. **Entries close August 7.**

August 21, at Radstock.—Annual Show of the Somersetshire B.K.A., in connection with the Radstock Horticultural Association. Seven open and two free classes; good prizes. Schedules from Herbert J. Moore (Show Secretary), Foxcote, Radstock. **Entries close August 14.**

August 21 and 22, at Shrewsbury.—Shropshire B.K.A. Annual Show, in connection with the Shropshire Horticultural Societies' Great Floral Fête, in the Quarry, Shrewsbury. Nine Open classes for Honey and Wax. Free entry for single 1 lb. jar and single 1 lb. section. Schedules from S. Cartwright, Hon. Sec., Shawbury, Shrewsbury. **Entries close August 9.**

August 28, at Chester (Cheshire Agricultural Society's Show).—Bee and Honey Department, under management of the C.B.K.A. Open classes for Hives, Sections, and Extracted Honey. Increased prizes. Members' classes, District class. Special prizes offered by Chester Tradesmen's Association. Schedules from T. A. Beckett, St. Werburgh's-chambers, Chester. **Entries close August 7.** Post entries at double fees to **August 14.**

August 28 and 29, at Rugby (Warwickshire B.K.A.).—Show of Honey and Bee Appliances, in connection with the Annual Show of the Warwickshire Agricultural Society Schedules from Jas. N. Bower, Hon. Sec. Warwicks. B.K.A., Knowle.

September 5, 6, and 7, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-five Classes (nine open to all). Increased prizes and medals. Schedules from F. B. White, Secretary, Marden House, Redhill, Surrey. **Entries close August 22.**

Sept. 25, at Altrincham.—Honey Show, in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom: For Best Hive, Observatory Hive, with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester: Classes for Trophy of Honey, Amateur-Built Hive, two Shallow Bars, Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low Entrance Fees. Schedules from Mr. J. Herbert Hall, 2, Dunham-road, Altrincham. **Entries close September 7.**

Notices to Correspondents.

J. W. M. (Edinburgh).—*Observatory Hives for Showing.*—No harm will follow to the stock by removing a couple of combs for a day to stock an observatory hive for the show bench. It is quite a common thing to do among bee-men who are exhibitors.

Constant Reader (Co. Antrim).—*Old Bee Book.*—The book you name is not very rare, and may be often got from secondhand book-stalls in London for two or three shillings.

T. M. (High Beach, Essex).—*Wax-moth in Combs.*—There is no disease at all in comb sent, but it is infested with wax-moth, and that being so we should melt all such comb down for wax as the pollen is hard and useless to bees.

Suspected Combs.

Beedom (Peterborough).—We have had a few cases similar to your own submitted to us this season and are at a loss to explain the symptoms. The bees are almost fully developed, and for some reason the bees do not seal them over in the cells. We shall probably learn more about it ere long.

W. S. (Glenlivet, N.B.).—The dead larvæ in comb are not affected with foul brood (*B. alvei*); the appearance is that of black brood.

J. P. (Polpero).—Both samples are affected with foul brood of old standing.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, 500 Young Fertile Pure Carniolan Queens, 4s. each; also 500 Young Fertile Caucasian Queens, 7s. each; cash with order.—HAUNSCHILD, Weissbach-by-Pulsnitz, Saxony.

FOR SALE, 2 Taylor's Non-Swarming Hives, minus lifts; also 4 Skep Supers, fitted with Shallow Frames, with roofs.—Particulars apply, WARDEN, Studley College, Warwickshire. a 53

QUEENS, CHOICE BRED, from my Non-Swarming Stocks, 3s. 6d. each per return.—TAYLOR, Boldmuri, Wylde Green, Birmingham. a 54

4 STOCKS OF BEES FOR SALE, and other Appliances.—SHORT, Great Barr, near Birmingham. a 55

AN ENGLISH LADY AND GENTLEMAN, with twelve years' recent experience in advanced Bee-keeping in the United States, whose apiary is near Cambridge, are open to receive a Lady or Gentleman Pupil on moderate terms; delightful country home.—Address, "MINNESOTA," care of Titmarsh, Advertisement Agent, Linton, Cambs. a 56

31ST YEAR.—Healthy Driven Bees, 5s. 6d., cases free.—ALSFORD, "Expert," Haydon, Sherborne. a 52

FOR SALE, 10 HIVES AND BEES; can be seen by appointment.—W. G. DUNN, Glen Parva, South Wigston. a 51

3-FRAME NUCLEI, 10s.; strong, healthy Stocks, in wired combs, from 20s. each.—R. CARTER, Chartridge, Chesham, Bucks. a 50

1907 QUEENS, fertile (Woodley's strain), safe arrival guaranteed, in safety introducing cage, 3s. 6d.; Virgins, 1s. 6d.; 3-Frame Nucleus, with young Queen, 10s.—TOLLINGTON, Woodbine Apiary, Hathern, Loughboro'. a 49

ENGLISH BEES, unswarmed Stocks, good Hives, with racks, partly completed Sections, 30s. each; without Sections, 25s.; Stocks in Skeps and Boxes, 10s. each.—BROWNING, Fernbank, Woodchester, Stroud. a 48

WANTED, immediate offers (owner going abroad): 12 strong, healthy Stocks Bees, 20s.; mostly Lee's Heather Hives; "W. B. C." Hive, 10s.; 2 Howard Waterproof Hives, and 2 Lee's Heather Hives, 6s.; Patent Raynor Extractor, 15s.; Wax Extractor, 3s.; 2 Honey Ripeners, 6s., 4s.; Rymer's Press; several lots of Racks, Feeders, Excluders, Swarm Boxes, separate; the lot £12; inspection invited; Deposit; also 4-wheeled Bath Chair, shafts and handle, suit lady, cost £60, accept £28, no worse than new.—EXPERT, 145, Cold Bath-road, Harrogate. a 46

QUEENS, delivery after June 7th, any number (see advt. page iii. "B. B. J." last week); Nuclei, 4-frame, with Queen, 12s. 6d.; started now would make a full Stock for next Season, or store surplus at Heather.—CHARTER, Tattingstone, Ipswich. z 52

3-FRAME NUCLEI, with tested Queen, British, 10s. 6d.; imported Italian, 15s.; imported Italian Queens, 6s. 6d.; Home-raised Italians, 5s.; British, 4s. 6d.—E. WOODHAM, Clavering, Newport, Essex. a 43

HONEY PURCHASED, any quantity for prompt cash.—Samples and lowest price to SPRING AND CO., LTD., Brigg, Lincs. a 45

APICOL CURES ALL STINGS, makes Bee-keeping a pleasure; no pain or swelling; 1 oz. bottle, 7d., post free.—WHITTON, Langdon Hills, Essex. a 44

FOR SALE, 2 Strong, Healthy Stocks, Frame Hives (9 Frames each), also empty Hive and complete lot of Sundries. Selling cheap.—ROXDENE, Kineton-road, Olton, Warwickshire. a 42

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NEW SECTIONS WANTED, any quantity, unglazed. State price, carriage paid.—SILVER, Croydon-grove, Croydon. a 47

8 TESTED QUEENS, produce good Section Workers (want room for Goldens), 2s. 6d. each, in introducing cage.—BROCKMAN, Hazelholme, Colnbrook. a 41

OFFERED.—Plants, Brussels, Scrymger's Giant; Savoys, Drumhead, Tom Thumb; Cabbage, Cocoa Nut; Cottager's Kale; White Sprouting Broccoli, 2s. 6d. 1,000; Cauliflowers, Eclipse, Veitch's Autumn Giant, Broccoli, Veitch's Self-protecting, Michaelmas White, 3s. 6d. 1,000; Asters, Stocks, Zinnias, 1s. 3d. 100; Tomato Plants, Comet and Up-to-Date, 7s. 100, good stuff.—BURGESS, Wenden, Saffron Walden. a 40

REID'S BEE-HOUSES, latest designs, will be exhibited at the Highland Show, Edinburgh, next week, on Stand 34, by R. STEELE, Wormit. a 39

SECTIONS WANTED for cash.—Apply T. SMITH AND CO., 17, Cambridge-street, Hyde Park. a 57

"NONDESCRIPT" Device for Prevention of Foundation Stretching and Repairing Faulty Combs; sample set, P.O. 1s. 1d.—W. PALMER, Gate House, Maghull, Liverpool. a 35

FOR SALE, 13 7-lb. tins Light-coloured Extracted Honey, at 56s. per cwt., carriage paid.—BENNETT, Birch Vale, viâ Stockport. a 29

STRONG NATURAL SWARMS, 1906 Queen, 12s. 6d., 13s. 6d.; 3-Frame Nuclei, 1907 fertile Queen, 10s. 6d.; Stocks, in Skeps, 1906-07 Queen, 12s. 6d., 13s. 6d.; Stocks, on ten Standard wired Frames, 25s.; fertile Queens, 3s. 6d. Extracted Honey taken in exchange.—W. WOODS, Normandy, Guildford. z 87

BEE-KEEPERS' NECESSITIES.—British Weed Foundation, Brood, 2s. 5d. lb.; Super, 2s. 9d.; 5 lb. 1d. lb. off, 10 lb. 2d., postage 4d. first lb., 1d. lb. after; Hives, 7s. 6d., 18 by 16, for 10 Standard Frames, double walled back and front, 9 in. lift, telescope roof and porch; also Hives, ditto, 18 by 18, with dummy, sliding entrance, 9s. 6d.; self-adjusting Frames, 1s. 2d. doz., 8s. 100; "W.B.C." ends, 2s. 6d. gross, post. 4d.; Split-top Sections, 2s. 9d. 100; Section Racks, 2s. 6d.; Shallow Frame Crates, complete, 3s. Cash with order.—COX, manufacturer, Smallbrook-street, Birmingham. y 28

PROTECT YOUR FRUIT.—Tanned Garden Netting, only best quality supplied. Order promptly, as nets are scarce and must be dearer. 25 yds. by 8 yds., 50 yds. by 4 yds., and 100 yds. by 2 yds., 9s. each; add ten per cent. for other sizes.—L. WREN AND SON, 139, High-street, Lowestoft. y 39

GILLIES MARVELLOUS CONTROL-CLOTH, in vest pocket case, with clearly printed instructions for manipulation of Bees; two delivered anywhere, 7d. stamps. Re-charge Fluid, 9d., post free.—43, Dawson-street, Dublin. Agents wanted. y 61

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester.

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order.—EDWARD REYNOLDS, manufacturer, Andover, Hants.

WANTED, for Scientific purposes, QUEEN BEES and WORKER HORNETS. Will brother bee-keepers oblige?—HERROD, Apiary, Luton.

DRIVEN BEES, guaranteed healthy. Orders now booked; delivery in rotation; 1s. 3d. per lb., f.o.r. Boxes to be returned. Cash with order.—T. D. SINFIELD, 26, Upper George-street, Luton. a 38

Special Prepaid Advertisements.—*Continued.*

DOOLITTLE STRAIN GOLDEN QUEENS. Virgins, 1s. 6d. by return post; Fertiles, 5s.; safe delivery guaranteed; Nuclei, with 1907 Fertile Queen, 12s. 6d., packed free, box returnable.—D. TAYLOR, Ilminster. a 30

SECTION GLAZING.—Best quality neat patterns in lace paper, made especially to my order (not common thin box edging). White, 1in. wide, 100 6d., 500 2s. 3d.; Pink, Green, Blue, 100 7d., 500 2s. 6d.; Lace Bands, White, 2⅞, 3, and 3⅛ in. wide, 100 1s. 3d., 500 4s. 6d.; Pink and Pale-blue, 100 1s. 6d., 500 6s. Cash with order; post free.—W. WOODLEY, Beedon, Newbury.

HEALTHY DRIVEN BEES, commencing August 1, 3s. 6d. per lot, with Queens; boxes to be returned; orders rotation.—T. PULLEN, Ramsbury, Hungerford. a 34

WANTED, New Sections, first quality; prompt cash.—W. CHILTON, Southdown Apiaries, Polegate, Sussex. a 33

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw-cap jars, 77s. gross, 21s. ¼ gross; ½ lb. ditto, 45s. gross, 13s. ¼ gross; Honey in bulk, 48s. cwt.; samples, carriage paid, 8d. Further prices and particulars on application.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 74

HONEY JARS.—We have contracted largely for special well-finished machine-made screw-top jars, each washed and wrapped in paper, complete, with caps and cork wads, 15s. 6d. gross, 43s. 3 gross; ½ lb., 12s. 6d. gross, 37s. 3 gross.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 75

BRICE'S 1907 HYBRID QUEENS, tested, 5s. 6d.; Virgins, 3s.; safe arrival guaranteed.—HENRY BRICE, Brigstock-road, Thornton Heath. a 13

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

GOLDEN-ALL-OVER QUEENS, 6s. 6d. to £1.—E. L. PRATT, Swarthmore, Pa., U.S.A. Handsome 24pp. brochure free.

OVERSTOCKED.

"W. B. C." Hives, 21s., offered 16s.; Heather Hives, 17s. 6d., offered 12s. 6d.; Cottage, 12s. 6d., offered 9s. 6d.; "W. B. C." Hives, in flat, 2 Shallow Boxes and 1 Brood Box (no frames), offered 12s. 6d.; Shallow Frame Boxes, 3s., offered 2s. 4d.; Ditto, with Foundation wired, 6s. 6d., offered 5s.; Brood Boxes, ditto, 8s., offered 6s.; Bottles, Screw Cap, 16s., offered 12s. 6d.; Gloves, with Gauntlets, 3s. 6d., offered 2s. 6d.; Feeders, Round Tin, 1s. 6d., offered 1s.; Feeders, Round Tin, large, 2s. 6d., offered 1s. 6d.; Frames, American, 8s., offered 6s. 6d.; Frames, American, Shallow, 8s., offered 6s. 6d.; "W. B. C." Ends, 3s., offered 1s. 6d.; "W. B. C." Ends, wide, 3s. 6d., offered 2s.; Super Clearers, 2s, offered 1s 6d.; Queen Excluders, doz. 7s., offered 4s. 6d.; Queen Excluders, long, each 3s. 6d., offered 2s.; Mosquito Net, black, 1s. 8d. yard, offered 1s. 3d.; Mosquito Net, white, 1s. 4d. yard, offered 1s. 3d.; Tin Separators, slotted, 7s., offered 5s.; Foundation, shallow, 2s. 7d., offered 2s. 3d.; Foundation, section, 3s. 1d., offered 2s. 4d.

SHEPHERD'S BEE STORES,

478, STOCKPORT ROAD, MANCHESTER.

W. P. MEADOWS,

SYSTON, near LEICESTER.

Telegrams: "MEADOWS, SYSTON." Nat. Tele. 2 X.

ROYAL SHOW, LINCOLN, 1907.

NOTE AGAIN to the FRONT. 2 FIRST 2 SECOND 2 THIRD **PRIZES**

Send for KAT-A-LOG.

Editorial, Notices, &c.

THE BOARD OF AGRICULTURE AND THE BEE-INDUSTRY.

A Departmental Committee was appointed to inquire as to the provision which has now been made for affording scientific and technical instruction in agriculture in England and Wales, and to report whether, in view of the practical results which have already been obtained, the existing facilities for the purpose are satisfactory and sufficient, and, if not, in what manner they may with advantage be modified or extended. This Committee met on July 11, when Lord Barnard was in the chair, and there were also present Mr. Thos. Latham, J.P., Mr. J. C. Medd, Professor T. H. Middleton, and Mr. H. L. French, Assistant Secretary.

The Chairman of the British Bee-keepers' Association, Mr. T. W. Cowan, F.L.S., and Mr. Walter F. Reid, F.T.C., member of the Council of the B.B.K.A., gave evidence as to what has been done by the Association for promoting bee-keeping. Mr. Cowan explained the educational work of the Association and the methods of conducting examinations and awarding certificates, pointing out how in some cases bee-keeping has been discredited by public bodies appointing inefficient teachers, and emphasised the importance of only employing those who had passed the necessary examinations and obtained certificates. The present position of bee-keeping in this country was entirely due to the past efforts of the B.B.K.A. He also pointed out that the demands on the parent body were far greater than their financial means were able to supply. He (Mr. Cowan) also showed the importance of bees to agriculture, suggested the manner in which the Government could assist, and explained what was done by the Governments of other countries to foster bee-keeping.

Mr. Reid explained what was being done by some of the County Associations who were receiving from County Councils grants in aid of technical instruction, and mentioned that in some instances public bodies had appointed inefficient instructors, sometimes adding bee-keeping to another branch in order to save expense. Such a policy has in such cases done more harm than good, and the instruction has been discontinued. He also recommended that only those having the proper certificates should be appointed. There were plenty of able experts, and the Association could put public bodies desiring experts in communication with suitable persons in their several districts.

BOARD OF AGRICULTURE.

REPORT ON A DISEASE OF BEES IN THE ISLE OF WIGHT.

In consequence of numerous reports which were received as to the occurrence of a very serious disease among bees in the Isle of Wight, the Board of Agriculture and Fisheries requested Mr. A. D. Imms, B.A., M.Sc., of Christ's College, Cambridge, to undertake an inquiry into the nature and cause of the disease. Mr. Imms has now furnished the Board with the following Report on the result of his investigations.

The Isle of Wight bee-keepers term the disease "paralysis," but its symptoms do not agree with those of the ordinary disease of bees which bears that name.

Geographical Distribution.—So far as has been ascertained by personal inquiry, the disease appears to have been first observed in the south-eastern area of the island, somewhere in the neighbourhood of Wroxall. Bee-keepers all state that they were not troubled with the disease previous to 1904, and it is said to have broken out in the summer of that year. During the year 1906 it spread very rapidly, and in the spring of 1907 it was prevalent over nearly the whole of the island, and in most localities that have been visited it was practically an impossibility to keep bees with any profit. The following are the principal places where the disease has been ascertained to occur:—Near Blackwater, Bembridge, Bonchurch, Brook, Chillerton, Freshwater, Great Whitcombe, Hampstead, Newport, Porchfield, Ryde, St. Helen's, Sheat, Shalfleet, Shanklin, Thorley, Ventnor, Yafford, Yarmouth, Wellow, and Wroxall.

Inquiries from a bee-keeper in Cowes early this year showed that the disease had apparently not yet reached that district, and at Norton, near Yarmouth, the disease was also stated to be absent.

Losses Sustained through the Disease.—In almost all the cases that I have personally investigated, the disease was found to be so prevalent as to render it practically an impossibility to keep a healthy stock for twelve months. Within one mile radius of Upper Lea Farm, Thorley, there were about seventy stocks in the winter of 1905. In March, 1907, there were under eight, and some of these were diseased. A bee-keeper in Shanklin has lost twenty stocks out of twenty-two, and three other bee-keepers in the same district have lost their whole stock, consisting of twelve, eight, and four hives respectively. A bee-keeper in Brook has lost all his hives—numbering twenty-eight—and similar destruction has been personally met with at Sheat, Great Whitcombe, Ryde, and Porchfield, where all the hives have been destroyed. In Freshwater there are about

a dozen bee-keepers, but none had any living hives so far as could be ascertained. Furthermore, almost all the bee-keepers can give information of similar instances which it has not been possible to investigate personally. The greatest loss that has come under my notice is in the case of one bee-keeper who has lost over fifty hives.

In some few cases the destruction has been obviously hastened by dirt and neglect, but in most cases the hives were well cared for, and in only one instance were the bees kept in the old-fashioned skep type of hive.

With few exceptions the bee-keepers are disinclined to pursue the practice another season until they can hear of some remedy which will combat the disease.

Suggested Causes of the Disease.—Several suggestions have been put forward by the more experienced bee-keepers; some are inclined to think that it is due to some poisonous plant, while others put it down to artificial manures or to blight. On further inquiry none of these suggestions were found to be based on a single well-ascertained fact.

In some instances, I have been informed, healthy swarms have been purchased from the South of England, and in a week these were dying off by hundreds. In other cases, apparently healthy swarms commenced to die off twenty-four hours after the disease had been detected. Other cases have come under my notice in which the bees have died off in batches each day, and it has been going on for several weeks. Some strains of bees appear to be capable of resisting the disease for a longer period than others, but all eventually succumb to the complaint.

Several bee-keepers say that the disease is least prevalent at the time when the Dutch clover is in full blossom.* This coincidence may perhaps be on account of the plant containing some ingredient which renders the bees better able to withstand the disease, but positive information on this point remains to be obtained.

Secondary Effects of the Disease.—Hives attacked by the disease are liable to "chilled brood," which kills off large numbers of the young and developing generation. The weakened bees are unable to withstand the onslaughts of robbers, and the latter were often in evidence around infested hives, and the destruction of a diseased colony is further hastened by the wax-moth, which soon gains an entrance into a feebly-defended hive. In Brook it was ascertained that both the large and small species of this moth attacked the hives.

* Three bee-keepers have independently informed me of this fact.

Symptoms of the Disease.—The earliest noticeable symptom of the disease is the inability of the affected bees to fly more than a few yards without alighting. As the disease progresses the bees can only fly a few feet from the hive, and then drop and crawl about aimlessly over the ground. They are often to be seen crawling up grass stems or up the supports of the hive, where they remain until they fall back to the earth from sheer weakness, and soon afterwards die. In a badly-infected stock great numbers of bees are to be seen crawling over the ground in front of the hives, frequently massed together in little clusters, while others remain on the alighting-board. If the hives be opened, numbers of diseased individuals will be often met with inside. They are found clustered together around the queen, and show very little inclination for movement until disturbed, and are entirely unable to fly. Badly-diseased individuals show very little inclination for stinging; those that are less severely attacked often sting very actively.

If a badly-diseased bee be carefully examined it will be seen to have lost its power of flight, and it crawls about with the hinder extremity of the body dragging on the ground; frequently it walks about with its wings "out of joint," the hind wings protruding obliquely upwards and above the anterior pair. The only other external symptom of the disease is seen in the abdomen, which is frequently distended beyond its normal proportions. This distension, however, is not by any means constant, and was chiefly noticed in the case of the native bee; in the half-breed with the Italian bee, with its longer and slightly more slender abdomen, no unusual distension could be observed.

The disease appears to differ from what is usually termed "bee-paralysis" in that the infected individuals do not exhibit the characteristic black and shiny appearance, and neither I myself nor any bee-keepers who have paid attention to the disease have observed the curious trembling motion of the limbs and body which is regarded as a symptom of that disease.

The disease appears to be entirely confined to the adult bees, the brood remaining unaffected. I have conducted a microscopical examination of a large number of eggs, larvæ at all stages of development, and pupæ and have failed to detect anything of a pathological nature among the brood. All had the characteristic pearly-white appearance of healthy specimens, although belonging to a badly-infected hive. The eggs were undergoing development and showed not the slightest trace of discoloration or shrivelling, the larvæ were healthy in every way, and were coiled up in their normal attitude, and

nothing wrong could be detected with the pupæ or the newly-hatched bees.

A number of hives have been examined which have been completely destroyed by the disease, and the last remnant of the colony to die was in each instance found grouped together around the queen. That the queen is almost the last member of a hive to succumb is also in accordance with the experience of bee-keepers in the island.

Affected stocks examined in early spring show symptoms similar to those of dysentery. The bees discharge their excrements over the combs and on the sides, floor, and alighting-board of the hive,

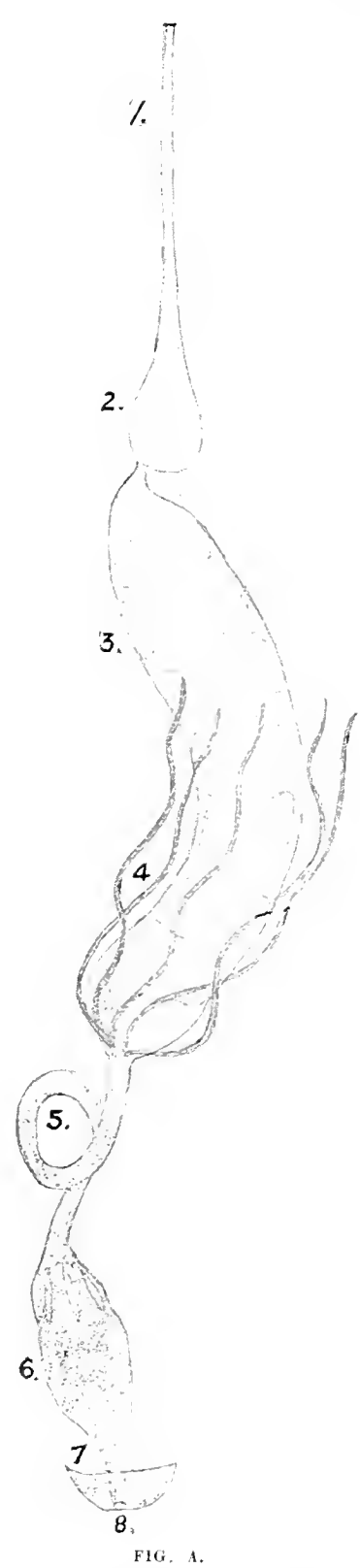

FIG. A.

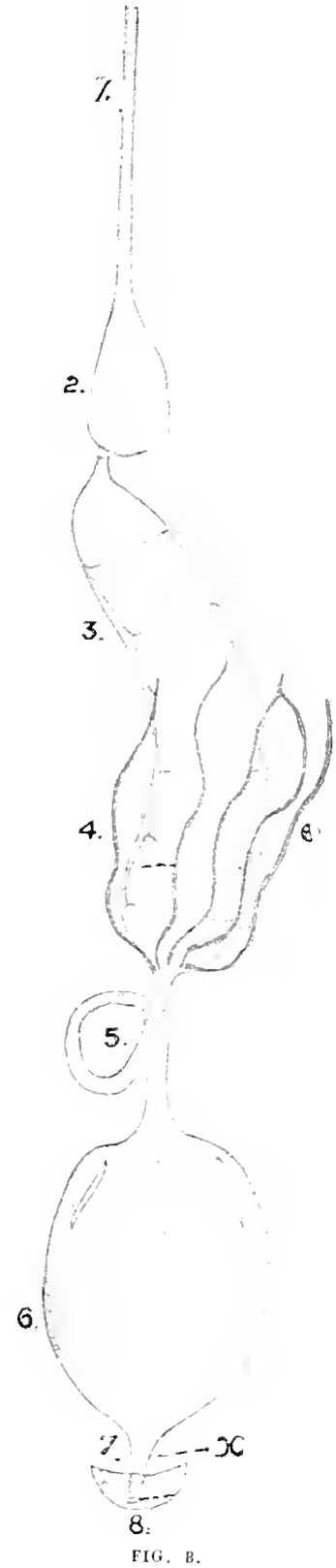

FIG. B.

Fig. A.—Digestive canal of a healthy bee. Fig. B.—Digestive canal of a diseased specimen, showing greatly enlarged hind-intestine characteristic of the disease (x = point of obstruction). The figures in both cases represent the digestive canal dissected out and extended. Fig. B is drawn from an average case; the distension is often proportionately much greater than is here figured.

1. Œsophagus. 2. Honey stomach. 3. Chyle stomach. 4. Malpighian tubes. 5. Small intestine. 6. Colon. 7. Rectum. 8. Anus.

and the dry fæces take the form of a long streak of a dirty red-brown material. The bee-keepers state that this condition is only present after the winter confinement within the hive. A comb constructed by a diseased stock during the summer does not reveal any indications of dysentery being present in the hive.

After the winter is over and the bees are all on the wing, no dysentery is noticeable, and all the diseased bees that have been dissected showed the opposite condition of distension of the gut. The digestive system of a large number of diseased bees has been examined microscopically, the bees being taken from infected hives from four different localities. In all instances the colon was found to be filled with a yellowish-brown material, and in many cases it was greatly distended with it. When these contents are dried in contact with the atmosphere they assume the same colour as the excrement noticeable inside the hives at the close of winter. Microscopical examination reveals the presence of an enormous number of pollen grains differing in their species in different bees. An examination of this pollen has shown that no particular type of grain is present in all diseased bees. In addition to pollen, a variable quantity of a bright yellow amorphous material is also present.

Nature of the Disease.—The disease is eminently one of the digestive system, and might be described as being a condition of enlargement of the hind intestine. Over 150 diseased bees have now been examined, and all have been found to exhibit the same symptoms.

The colon and adjacent part of the rectum are enormously distended with a congested mass of material consisting primarily of pollen grains (Fig. B). The distension is so marked that this section of the alimentary canal becomes extended from two and a half to four and a half times its normal capacity. When the dorsal integument of the bee is removed, the greater part of the abdominal cavity is seen to be occupied by the very greatly enlarged hind intestine. In extreme cases the rectum almost as far as the anus is also distended, and the small intestine as well. At first sight it would appear as if the chyle stomach was greatly distended, but further examination shows that the latter becomes pushed to some extent out of its normal position and is partially flattened by the pressure that is exerted upon it. The greater part of the abdominal cavity, which is normally a hæmocœlic space, is thus occupied, and, furthermore, the distended colon exerts pressure on the large abdominal air-sacs of the tracheal system and so interferes greatly with their function. The insect is therefore unable to expand them with sufficient air, which is necessary for flight, and this feature, coupled with the additional weight in the digestive canal, renders the insect incapable, when badly diseased, of flying about. The movements of the legs are not impeded, but the insect only seems to have energy to crawl about in a lethargic fashion. The fact that it cannot fly is not due to paralysis of the wing-muscles; diseased bees have been kept under observation, and occasionally they have been seen to vibrate their wings actively with a familiar buzzing sound. Moreover, if a diseased bee be held under the thorax lightly with a pair of forceps it will vibrate its wings very rapidly in its efforts to free itself, thus showing that there is no paralysis of the wing muscles. Bees in the last stage of the disease, however, do not seem to have strength to move their wings at all.

While the hind intestine is thus gorged with pollen, &c., the stomach and the remaining portion of the digestive canal contain very little solid matter of any description. Some amount of a dark-coloured fluid is present very often in the chyle stomach, but it is not distended with it.

The contents of the rectum and colon are represented in Fig. C. They consist of pollen grains for the most part, together with a variable quantity of a bright yellow substance in amorphous masses, and a large number of bacteria. There is no individual type of pollen grain common to all the bees examined (the digestive contents have been studied in about 100 examples), but in an individual bee there has always been found one species of pollen in much greater abundance than the others. Thus Fig. C represents the usual types of pollen grains found in diseased bees received from Thorley. The grains *p* 1 predominate, *p* 2 are also common, while *p* 3 are few and far between. By counting the number of grains visible in the field of a Zeiss lens, objective D, and eyepiece 2, it was found on an average that 80 *p* 1 and 6 or 7 *p* 2 are present to every single one of *p* 3. Fig. D represents the usual kinds of pollen seen in the colon of diseased bees, obtained from Great Whitcombe, in which about 60 of *a* are present to about 7 of *b*, and but 1 of *c*. Very occasional grains of other species are always met with in addition. These facts demonstrate that the bees have a partiality for a particular species, but do not confine their attention solely to it. A healthy bee out on a foraging expedition confines itself to a single type of plant.

The contents of the pollen grains were found for the most part to be partially digested, and in many cases only the empty coats were remaining. They are but little crushed or distorted, and their species could probably be identified if necessary.

I have not seen a single diseased bee carrying pollen in the "pollen basket" situated on the posterior legs. What pollen they collect they apparently eat.

(Conclusion, with Figures C and D, in our next issue.)

THE "ROYAL" SHOW, LINCOLN.

(Concluded from page 271.)

The sixteen classes comprised in the honey section occupied about 150 ft. frontage of the spacious shedding, and made up a very fine display. For so poor a bee-season as that of 1907 this part of the show came as a surprise to everyone; indeed, had all the entries been staged it would have been found one of the largest exhibits of honey ever seen at a "Royal" Show.

The grouping of counties into fewer divisions than formerly had the beneficial effect of lessening confusion in the minds of visitors with regard to the prize cards, which seems inevitable, and will remain so until the exhibits in the several groups are kept plainly apart by means of a large placard intimating plainly which group the prize cards apply to. We hope to see this done at future shows. It served to illustrate our point when it was seen that the first awards made by the judges were for local classes, open to Lincolnshire only, in which county the honey-crop of 1907 has been almost a failure, and last year's crop was practically sold out. This accounted for the fact that in the class for sections no first and no fourth prize was awarded at all, such well-known exhibitors as Mr. Weatherhogg and Mr. Holdsworth only securing second and third respectively.

In the second group, Classes 419 to 422 (open to Midland and Northern counties, along with Scotland, Wales, and Ireland), the few sections staged were characteristic of the season—a few good ones, and some quite below "Royal" Show standard. Extracted light honey, fairly good, but some good examples spoilt by the exhibitors using too much smoke or carbolic acid in undue quantity.

Granulated honey (Class 422) was very good, the awards going to excellent samples. Smoky flavour, again observed, was found (after the awards were made) to come from the same exhibitor as in the former class. The lesson should be taken to heart.

Classes 423 to 426 (open to Southern and Western counties).—In these it may be said that the South and West were more favoured than the others, some excellent samples being staged, including both comb and extracted honey of the current year. It was also gratifying to see a very fair display in the classes for heather honey—eleven entries for sections and same number for pressed honey in jars. The winning exhibits were very much better than have been seen at the "Royal" for some time.

Of the ten Open Classes, 427 to 436, that for honey trophy or display of honey took first place in attracting the attention of visitors, and the merits of the fine exhibits staged were very favourably commented on by all, the first-prize one being much admired. Mr. R. Brown's exhibit, which took second, had the merit of being largely this year's honey, of excellent colour and quality. Indeed, all the trophies were good and well staged.

Much regret was felt at the unfortunate mishap to Mr. Holdsworth's first-prize trophy, which collapsed from its own weight during the night after the award was made. The whole of the honey was destroyed as was also the plate-glass shelves on which it was staged.

Class 428, for 6 1-lb. jars of heather-honey, was a good one, some excellent honey from *Calluna vulgaris* being shown.

The heather mixture, Class 429, was also a satisfactory one, the awards in both being well earned.

Some capital samples of beeswax were shown in Class 431, the first-prize sample being purchased by the B.B.K.A.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of June, 1907, was £5,454.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

ISLE OF WIGHT BEE-TROUBLES.

SUGGESTION FOR A RELIEF FUND.

[6781.] My attention has been called to the letter of your correspondent "H. D. D., Basingstoke," in the B.B.J. of June 20 (page 245), and if no one has yet accepted his very kind offer of two swarms, I shall be very pleased to do so. If he should elect to send them to me, I will gladly carry out any suggestion as to feeding and treatment that he like to make.

When the disease reached here, at the end of last summer, it found my twenty-three stocks all strong and fit, but in less than two months after the outbreak all but four had succumbed. During these two months I tried many ways of feeding such as syrup medicated with sulphur, with brandy, and with both; but the character of the epidemic was so severe that a strong stock was reduced to a mere handful in a few days. In the hope of stamping out the disease I sulphured any stock on finding that there was no chance of its coming through the winter. The four surviving hives were all remarkably strong, seemed perfectly healthy, and were headed by young queens, the combs being full of honey, and, when I closed down, I only prepared these in the usual way for the winter, trusting that they had not contracted the disease.

In January one of these died, and I sulphured another which was badly affected. The other two, though showing signs of the disease, had large patches of healthy brood, so I decided to try to save them. They, however, died at the end of February. I examined the combs, and found in each case a quantity of healthy brood, and even young bees in the act of hatching out. The previous experiences of the majority of the other bee-keepers in the Isle of Wight had been similar to mine. —M. F. Gibson, Porchfield, near Newport, Isle of Wight.

[The above is the first part only of Mr. Gibson's communication, the remaining portion having already appeared in our pages; not only so, but the subject is now under consideration by the Board of Agriculture and Fisheries. On the other hand, we invite the attention of our readers to the practical suggestion of Mr. L. S. Crawshaw (page 237 of B.B.J. for June 13), viz., to afford financial help to the hard-smitten bee-men of the island through the loss of their bees. This point was put into business-like shape by "H. D. D.," on page 245, who promptly offered to give a couple of swarms, as mentioned in the above letter of Mr. Gibson.

Our proposal, therefore, is that the Hants and Isle of Wight B.K.A., as the proper body to take the matter up, should start a fund for the purpose of assisting such bee-keepers in the island as need help in making another start with bees. If this is done, we will be very pleased to give the matter full publicity in our journals, and head the list with a donation of £5.—Eds.]

PREVENTION OF SWARMING.

[6782.] Having been so much helped by the B.B.J. in my bee-keeping, and seeing the letter of "F. D. N." (6754, page 246) in your issue for June 20, complaining of undesirable swarms, may I ask him to try the plan of "Medicus" (May 30)? I have a very strong stock which had fully prepared itself for swarming. I had removed the queen-cells on Wednesday, May 29, and put on another brood-chamber with ten standard frames, that being my plan for extracted honey this year. (By the by, may I ask what is the capacity of a standard frame spaced 1½ in. from centre to centre?)

On the Friday, when the B.B.J. came to hand, I quickly devoured its contents. The American method (6726) commended itself to me, so I resolved to adopt this plan, and on June 1 I transferred nine of the ten frames above, filling up the bottom with full sheets of wired foundation. I then put on excluder, and quilted all down; and on the following Saturday, June 8, I examined again, and found a queen-cell sealed over. So I cut this out, and again packed down my bees; this entirely frustrated their plan, and last week, when I examined again, I found the sheets of foundation being drawn out, splendidly full of brood from bottom to top-bar, and in the top I found honey stored and sealed. Of all plans for the prevention of swarming I think this is—so far as my experience goes—the best I have tried. "F. D. N." could after three weeks remove the top chamber and replace with racks of sections, not forgetting that the above plan must be commenced fully three weeks before the honey-flow starts. I am afraid many of us will be sadly disappointed this season, for the weather is cold and wet, that whilst our hives are boiling over with bees they have to remain at home.

Will "Medicus" accept my sincere thanks for his plan, which has proved successful with me? Hoping "F. D. N." will take heart and not be downcast by these undesirables.—A. Dudley Burr, Bracknell, June 24.

THE SEASON IN MID-CORNWALL.

6783.] This is indeed a record season. Yesterday (July 7) was the first good bee-day since June 17, and to-day not a bee is on the wing. No swarms, and new bee-goods unpacked. The strongest hives —including one which last year broke every previous experience of mine in honey-producing—are packed with bees, but do not contain a single sealed cell of honey, whilst the weaker hives have not yet had their brood-nests enlarged at all. Orders for honey are coming in which cannot be supplied. My stock of sections for the season was folded and frames filled with foundation six weeks ago, but have had no use for them. With the beautiful

little verse or rhyme on page 256 in your issue of June 27, which many besides myself would, I am sure, like to have in full (will your correspondent J. W. Moore please note?), I am reminded of a well-known quotation: "In all this Job sinned not more, nor charged God foolishly."—J. M. Best, Trewoon Apiary, St. Austell, July 8.

THE SEASON IN CHESHIRE.

[6784.] To those who are no better off it may be a consolation to know that in this part of Cheshire our bee-feeders have not been out of use since the end of April, sugar-syrup having been about the whole substance on which the bees have been forced to exist. I say "exist," because the poor bees cannot be said to have lived other than a life bordering on misery, natural food, in the shape of nectar, having been almost entirely unobtainable all through the season. With regard to pollen, well, I do not think my twenty-seven stocks (spring count)—now twenty-five stocks—have gathered sufficient to keep half a dozen stocks going under healthy conditions. Thunderstorms, hail-storms, and bitterly cold winds, chiefly from the north and east, have been continuous up to date. With much more of this sort of weather and we shall be able to settle the question, "Will bee-keeping cease to pay?"—J. Huxley, Kinnerton, Chester, July 6.

THE SEASON IN ABERDEENSHIRE.

[6785.] In a recent report in the B.B.J. the present season has been termed a record one, and a very bad record at that. In the north-east of Scotland (Aberdeenshire) we have had the worst season for bees that I have had any experience of, going back at least sixteen years. To-day (July 6) resembles a March day more than the middle of summer; a cold north-westerly wind, with occasional heavy showers of rain, is keeping most of the bees inside. Many hives are turning out their drones and some worker-larvæ too, while others have perished altogether. I have not heard of a pound of super-honey yet, and only a few swarms. Where feeding has not been carried on brood-rearing has fallen back considerably. Clover is now in full bloom, and should we get warm weather now for a month or so strong colonies will give a good account of themselves, but the weaker ones will require most of the season to build up and store enough for the coming winter. Trusting the weather will improve soon.—Alec Low, Newmachar.

DO BEES REMOVE EGGS AND LARVÆ?

[6786.] To the above question I am forced to reply in the affirmative, for the following reasons:—Having a straw skep, with boarded top and hole in centre of same, from which I intended some short time ago to have made an artificial swarm, I found on turning up the skep that one of the centre combs had broken away from the top portion about half way down, and that this bottom part of comb was filled nearly up with fully-sealed brood, which I reckoned would take about a week to hatch out. I therefore left the stock as it was and made an artificial swarm from another lot. After about a week (*i.e.*, on July 4) I again examined this skep with the broken comb and found almost all the sealed brood hatched out, but that there was now several inches of unsealed larvæ some three or four days old from eggs which had evidently lately been deposited by the queen. I then removed this piece of comb and with a piece of wood skewered it upright on the top of the skep over the hole in the wooden top. The bees were left clustering on the comb, and to prevent, if possible, a chill, I put another straw skep over them, and the earthenware pan over all.

On July 8, at 3.40 p.m., I again examined this piece of comb and found the bees thickly clustered thereon, but on very carefully inspecting it, after brushing the bees away, not a trace of brood could I find. This made it clear to my mind that the bees must in the four days have removed all the unsealed larvæ, presumably into the skep combs below. Seeing that the bees can do this thing, and also steal stores, who shall say that they never purloin an egg (with which to make a queen) from a neighbour?—S. S. Clear, Bees' Home, Shepreth, Cambs.

Queries and Replies.

[3551.] *Black Brood and Foul Brood.*—Herewith please find sample of comb taken from a hive to-day, and which is, we fear, affected with foul brood. We have never heretofore seen any trace of this disease, but, simply as a preventive, we fed the bees with medicated syrup last autumn, as recommended in "Guide Book," and in spring feeding this year. Unfortunately our supply of naphthol beta gave out, and any subsequent feeding has been with ordinary syrup (unmedicated). Therefore, if the stock is affected with foul brood it cannot be of long standing. Abont a month ago we put a rack of sections on the hive from which the sample of comb sent herewith was taken, and as the bees seemed to be overcrowded then, we expected them to take to the super at once, but they never entered the sections at all, and in order to ascertain the cause of this I made an examination to-day, with above result. The

hive is still strong in bees, but as we have five other good hives very near the suspected one, I should be sorry to have them polluted. Supposing it to be a case of foul brood, would it be any advantage to remove the suspected hive into another garden, 30 or 40 yards off, after treating as advised for foul brood in "Guide Book"? Name sent for reference.—W. A. K., Prestwick, July 4.

REPLY.—The dead brood in comb sent is certainly affected with foul brood (*Bacillus alvei*), but bears all appearances characteristic of black brood, as described by our Senior Editor in his paper on "Brood Diseases of Bees," read at the meeting of the B.B.K.A. in London on March 21 last, and published in B.B.J. for April 4. This number can be had from the office for 1½d. in stamps.

[3552.] *About Swarms and Queens.*—I started bee-keeping as a pleasure last summer, and have gradually been gathering experience and a little knowledge of the habits of these interesting insects. About the middle of June this year one of my colonies threw off a swarm, which was placed in a new hive successfully by a friend. To prevent further swarming we examined the colony and cut out all the queen-cells. About a week afterwards I had a local expert to examine the frames, when he said there was no queen. We looked again, and, as formerly, the bees were very restless and spiteful, as the expert, who handles without gloves, was stung pretty frequently. We did not quite go through the whole colony, but having concluded that it was queenless, we introduced one which had just arrived from Mr. F. L. Sladen. Now what I wish to know is, When a swarm comes off, is there a queen left behind? I know there are queen-cells, but must a queen be actually hatched before the swarm comes off? I have consulted several bee-keepers, and they all say "Yes; the queen must be hatched first." Personally, I don't think so. I only judge from what I have read, my impression being that they may come off when the queen or queens left behind are only in the cells, capped or otherwise. The weather here has been simply atrocious for months past. I send name for reference.—D. M. M., Fife.

REPLY.—As an almost uniform rule, the parent queen leaves the hive along with first, or "prime," swarm, leaving behind several queen-cells, from which the young queens will hatch out in the course of eight or nine days afterwards. The most forward of these young queens accompanies the second swarm or "cast," and after that a third swarm sometimes issues, and any superfluous queens are killed off.

[3553.] *Bees "Balling" Queens.*—I am forwarding you the enclosed queen for your opinion as to her probable age, and why she was "balled." The circumstances are as follow: I bought a swarm, which came by rail on June 28, and has since been fed daily. The bees were hived on four frames—two of comb and two with full sheets of foundation—as the swarm only weighed 3¾ lb. My intention was to make up the stock to six frames by adding two sheets of foundation. The weather, however, being so adverse, the bees were not examined until July 8, which was fine and sunny, and bees were out thick on alighting-board. I found the foundation fully drawn out, and there were ample stores, but no eggs or larvæ. Three clusters of bees having formed on the comb while I was examining the hive, after parting two of them, I found only workers in an excited state, but in the third cluster found enclosed queen, already partly paralysed, so I put her outside the dummy, where a few bees were gathered, and they immediately "balled" her again and rendered her useless for bee-work. This makes me ask: How did the bees outside the dummy know they ought to "ball" the queen, or that "balling" was the order for the time being, when they were so far removed from the first scene of action? I send name for reference.—ENQUIRER, Cumberland, July 9.

REPLY.—As far as appearances go, the dead queen looks like a virgin, or at least one that had not been laying for some time. She has been "balled" probably during the operation of examining the frames on the 8th.

Bee Shows to Come.

July 24, at Ashby-de-la-Zouch, Leicestershire.—Show of Bees, Honey, and Appliances, in connection with Annual Flower Show. Three Open Classes, two Local Classes, and one L.B.K.A. Bee Demonstrations, Lectures, &c. Sec., J. H. Dunmore, Alandale, Ashby-de-la-Zouch. **Entries close July 22.**

July 24, at Middle Wallop.—In connection with the Horticultural Show. Open classes for Honey: Best 1-lb. Jar Extracted, Best 1-lb. Section. Schedules from Pryce E. Roberts, Schoolhouse, Nether Wallop, Stockbridge. **Entries close July 17.**

July 24 and 25, at Cardiff.—Annual Show of the Glamorgan B.K.A., in connection with that of the Cardiff and County Horticultural Society. Honey, Wax, Appliances, &c. Classes for members, novices. Five open classes, with prizes for Sections and Extracted Honey (light), 21s., and Bee Appliances, 40s. and 20s. Entry fee for one or more of the open classes to non-members, 2s. 6d. Schedules from Wm. Richards, Hon. Secretary, The Red House, Gabalfa, Cardiff. **Entries close July 20.**

July 25, at Tiverton.—Annual Show of the Devon B.K.A., in conjunction with the Tiverton and District Agricultural Association. **Entries closed.**

July 31, at Henbury, near Bristol.—Annual show of Honey and Wax of the Henbury District Bee-keeper's Association, in connection with Horticultural Society's Exhibition. Seven open (three free) classes, good prizes. Bee Demonstrations. Schedules from Hon. Sec., F. E. May, "Bellasis," Stoke Park, Westbury-on-Trym, Bristol. **Entries close July 24.**

July 31, at Upwell, Wisbech, — Horticultural Society's Show. Open classes for Honey, including gift class for 1-lb. jar. Schedules from Hon. Sec., J. Hy. Inman, Upwell, Wisbech. **Entries invited.**

August 5 (Bank Holiday).—Annual Honey Show of North Norfolk B.K.A., in connection with the Melton Constable Horticultural Association. Schedules from C. J. Cooke, Edgefield, Melton Constable. **Entries close July 27.**

August 8, at Abingdon Park, Northampton.—Honey Show of the Northants B.K.A. Two Special Classes, including one for single 1 lb. Jar Honey. Entry free. Prizes, 20s., 10s., 7s. 6d., and 2s. 6d. Schedules from R. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 3.**

August 8, at Madresfield, Malvern (Madresfield Agricultural and Horticultural Society).—Annual Show of the Worcestershire B.K.A. Open Class. Schedules from Geo. Richings, 2, Shrubbery-terrace, Worcester. **Entries close August 3.**

August 8 to 10, at Barnsley.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. **Entries closed.**

August 14, at Wye (Kent Honey Show).—Five Classes open to the United Kingdom. Trophy Cup value £3 3s. (entry 1s.), 1 lb. Section, 1 lb. Light Run, 1 lb. Dark Run, 20s., 10s., and 5s. in each case (entry free); Beginner's outfit, retail price not to exceed 30s. (entry free). Open to Kent only (fourteen Classes): President's Challenge Cup, value £6 6s., for 6 1 lb. Sections and 6 1 lb. Jars Extracted Honey. Money prizes for 6 Sections, 6 Jars Light, 6 Jars Medium, 6 Jars Dark, 2 Shallow or Standard Frames, 3 Sections and 3 Jars, Beeswax, Mead, Candy, Cake Sweetened with Honey, Display of Cut Flowers, &c., &c.; two Special

Classes for Cottagers. Schedules of J. Tippen, Secretary, Wye, Kent. **Entries close July 31.**

August 16, in Public School, Portwilliam, Wigtownshire.—Honey Show in connection with the Horticultural Society. Classes for Sections and Extracted Honey, open to amateurs and cottagers. Challenge Class (open to all) for 3 1 lb. Jars Extracted Honey, prizes 20s., 12s., 8s., and 4s. Schedules from Secretary, Horticultural Society, Portwilliam, N.B.

August 21, at Lancaster.—Show of Honey, &c., in connection with the Lancaster Agricultural Society's Annual Show. Open Classes for Extracted and Comb Honey, also Beeswax and Produce. Challenge Cup value £5 5s., also six silver and bronze Medals, and other Specials. Schedules from Thos. Armitstead and Son, Auctioneers, Lancaster. **Entries close August 7.**

August 21, at Radstock.—Annual Show of the Somersetshire B.K.A., in connection with the Radstock Horticultural Association. Seven open and two free classes; good prizes. Schedules from Herbert J. Moore (Show Secretary), Foxcote, Radstock. **Entries close August 14.**

August 21 and 22, at Shrewsbury.—Shropshire B.K.A. Annual Show, in connection with the Shropshire Horticultural Societies' Great Floral Fête, in the Quarry, Shrewsbury. Nine Open classes for Honey and Wax. Free entry for single 1 lb. jar and single 1 lb. section. Schedules from S. Cartwright, Hon. Sec., Shawbury, Shrewsbury. **Entries close August 9.**

August 28, at Chester (Cheshire Agricultural Society's Show).—Bee and Honey Department, under management of the C.B.K.A. Open classes for Hives, Sections, and Extracted Honey. Increased prizes. Members' classes, District class. Special prizes offered by Chester Tradesmen's Association. Schedules from T. A. Beckett, St. Werburgh's-chambers, Chester. **Entries close August 7.** Post entries at double fees to **August 14.**

August 28 and 29, at Rugby (Warwickshire B.K.A.).—Show of Honey and Bee Appliances, in connection with the Annual Show of the Warwickshire Agricultural Society Schedules from Jas. N. Bower, Hon. Sec. Warwicks. B.K.A., Knowle.

September 5, 6, and 7, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-five Classes (nine open to all). Increased prizes and medals. Schedules from F. B. White, Secretary, Marden House, Redhill, Surrey. **Entries close August 22.**

September 7, at Bramhall, Stockport.—In the grounds of the Bramhall Hall, by permission of C. H. Nevill, Esq., Honey Show in connection with the District Horticultural Society. Low entrance fees. Three Open Classes, with liberal prizes. Schedules from J. Sibson, Bramhall, Stockport. **Entries close August 31.**

September 12, at Castle Douglas (South of Scotland B.K.A.).—Exhibition of Honey and Wax in connection with the Dairy Show at Castle Douglas. Five Open Classes; Three Bottles Run (20s., 12s., and 6s.); Three Sections (15s., 10s., and 5s.); One Bottle (4s., 2s., 1s.); One Section (4s., 2s., and 1s.); Wax (5s., 3s., and 2s.). Schedules from Q. Aird, Hardgate School House, Dalbeattie, N.B. **Entries close August 31.**

September 25, at Altrincham.—Honey Show, in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. Classes for Trophy of Honey, for Best Hive, Observatory Hive, with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester: Amateur-Built Hive, two Shallow Bars, Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low Entrance Fees. Schedules from Mr. J. Herbert Hall, 2, Dunham-road, Altrincham. **Entries close September 7.**

Notices to Correspondents.

Postal Mishaps in Ireland.

*** Referring to the letter of "C. G. R." on this subject in last week's B.B.J., "Mr. W. E. M.," Newcastle-on-Tyne, writes us as follows:—

"A letter addressed by me to the 'Cruadh' Apiary, Ballyvarra, Co. Limerick, on July 4, has been returned to-day through the Dead Letter Office as insufficiently addressed, so that the difficulty with the postal authorities still exists. Could not your correspondent, 'C. G. R.,' Ballyvarra, humour the postal authorities by giving in the BRITISH BEE JOURNAL an alternative address, and so save much inconvenience to correspondents and themselves? A letter addressed to them earlier in the year was replied to, so I presume that 'C. G. R.' has had a 'difference' since, and it is a form of retaliation.—MEDICUS, Newcastle-on-Tyne, July 9."

S. H. G. (Manchester).—*Starting Bee-keeping.*—1. It is safer to buy your first stock in March or April of next year than at the present time. By so doing you avoid the risk attached to safe wintering. 2. You cannot improve on the native bee for the county of Lancashire. 3. The type of hive to use is a matter of choice among so many good ones. Consult any of the leading dealers who advertise in the B.B.J. The above affords the information asked for in queries 4 and 5.

J. McL. (Kincardine-on-Forth).—*Defaulting Advertisers.*—The advertiser you name has been known to us for a long time as an honourable man of business, and we cannot understand his acting in the manner stated. Write him again, and say you have brought the matter to our notice.

E. B. (Radstock).—*Deceiving Judges at Shows.*—Amateur judges may be deceived by supers being filled with sugar-syrup in lieu of honey; but inexperienced persons should not be appointed to judge in honey-classes.

MRS. BEECH (Andover).—*Pollen in Supers.*—There is no preventive against bees occasionally carrying pollen into surplus-chambers. Fortunately it does not often occur, and when it does the only harm that follows is having to extract the honey instead of using it in the comb.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

WANTED, Samples and Prices of Light and Dark Honey, in cwt. lots.—DALTRY, 75, Latimer-street, Oldham. a 72

FOR SALE, 2 Stocks of Native Bees, in boxes, fixed combs, healthy, 10s. each.—THOMAS, Aberdur, Gellywen, S. Wales. a 71

DRIVEN BEES WANTED, EARLY, 4 lb. lots, boxes sent.—WALLACE, Bramhall, Stockport. a 70

WANTED, Good Sections, any quantity. Prompt cash.—DELLS, County Apiaries, Leigh, Lancs. a 69

EXCHANGE Beautiful Chromatic Concert Guitar, Zither Coronation Harp, 49 strings, never been used, also Self-instructor and Stand, in case, for 2 Good Stocks of English Bees.—Apply, 25, Portrack-lane, Stockton-on-Tees, County of Durham. a 68

STRONG, NATURAL SWARMS, guaranteed healthy, 12s. 6d, packed, safe delivery.—CADMAN, Codsall Wood, Wolverhampton. a 67

STRONG NATURAL SWARMS, 1906 Queen, 12s. 6d., 13s. 6d.; 3-Frame Nuclei, 1907 fertile Queen, 12s. 6d.; Stocks, in Skeps, 1906-07 Queen, 12s. 6d., 13s. 6d.; Stocks, on ten Standard wired Frames, 25s.; fertile Queens, 3s. 6d.—W. WOODS, Normandy, Guildford. z 87

THREE-FRAME NUCLEI, 1907 Laying Queen, 10s. cash; Strong Stocks, 20s. each.—HEMMING BROS., Standlake, Witney. a 73

Special Prepaid Advertisements.—*Continued.*

QUEENS, CHOICE 1907, bred from my Non-Swarming Stocks, 3s. 6d. each, per return.—TAYLOR, Boldmere, Wylde Green, near Birmingham. a 66

FOR SALE, SURPLUS STOCK, new, never used. 40 strong Body Boxes, for "W.B.C." Hive, with 10 frames and ends, 2s. 4d. each; 12 Queen Excluders, mounted on frames, 1s. each; 40 Rymer Honey Boards, 1s. each; also 6 Secondhand Wells Hives, by Meadows, in excellent condition, each consists of strong floor-board, porch, 5 outer lifts, and zinc-covered roof, 16s. each; also 3 spare floor-boards at 1s. 6d. each, no inner parts; Weed Foundation, 7 sheets to lb., 1s. 11d. per lb.; 1 Two-frame Guinea Extractor, 13s., cost 35s., geared.—W. J. FARMER, Redruth. a 65

DRIVEN BEES, from 15 Straw Skeps, by the second week in August, 1s. 3d. per lb. Would take part value in Bee Appliances.—C. BRUNGER, Coleshall Cottages, Iwade, near Sittingbourne. a 64

HEALTHY DRIVEN BEES, Good Lots, Delivery in August, 5s. per lot, boxes free.—H. KEMP, Frome, Somerset. a 63

WANTED, for cash, 1 cwt. Best Light Clover English Run Honey, for 42s., free on rail, empty returnable. Send 2 oz. sample.—A. S. BURN, Market Lavington, Wilts. a 62

FOR DISPOSAL, 2 Queens, 1907, guaranteed June hatched and fertile, free from any foul brood, 3s. 6d. each.—PANKHURST, Ham House, Meopham. a 61

CYCLE, B.S.A., Acetylene Lamp, Sundries, splendid bargain, £4 10s.—HASTINGS, jun., Welcombe, Stratford-on-Avon. a 60

BEES, FEW STOCKS FOR SALE, with or without "W.B.C." Hives.—HASTINGS, Welcombe, Stratford-on-Avon. a 59

FOR SALE, EAST KENT. Splendid opportunity for Beginner. Complete Apiary of Bees, 20 Stocks, in Bar-frame Hives.—ROBT. G. WHEATLEY, Aldington, Hythe, Kent. a 58

FOR SALE, 500 Young Fertile Pure Carniolan Queens, 4s. each; also 500 Young Fertile Caucasian Queens, 7s. each; cash with order.—HAUNSCHILD. Weissbach-by-Pulsnitz, Saxony.

31ST YEAR.—Healthy Driven Bees, 5s. 6d., cases free.—ALSFORD, "Expert," Haydon, Sherborne. a 52

3-FRAME NUCLEI, 10s.; strong, healthy Stocks, in wired combs, from 20s. each.—R. CARTER, Chartridge, Chesham, Bucks. a 50

QUEENS, delivery after June 7th, any number (see advertisement page v. "B. B. J."); Nuclei, 4-frame, with Queen, 12s. 6d.; started now would make a full Stock for next Season, or store surplus at Heather. — CHARTER, Tattingstone, Ipswich. z 52

APICOL CURES ALL STINGS, makes Bee-keeping a pleasure; no pain or swelling; 1 oz. bottle, 7d., post free.—WHITTON, Langdon Hills, Essex a 44

NEW SECTIONS WANTED, any quantity, unglazed. State price, carriage paid.—SILVER, Croydon-grove, Croydon. a 47

"NONDESCRIPT" Device for Prevention of Foundation Stretching and Repairing Faulty Combs; sample set, P.O. 1s. 1d.—W. PALMER, Gate House, Maghull, Liverpool. a 35

STRONG NATURAL SWARMS, 1906 Queen, 12s. 6d., 13s. 6d.; 3-Frame Nuclei, 1907 fertile Queen, 10s. 6d.; Stocks, in Skeps, 1906-07 Queen, 12s. 6d., 13s. 6d.; Stocks, on ten Standard wired Frames, 25s.; fertile Queens, 3s. 6d. Extracted Honey taken in exchange. — W. WOODS, Normandy, Guildford. z 87

Special Prepaid Advertisements.—*Continued.*

SECTIONS WANTED for cash.—Apply T. SMITH AND CO., 17, Cambridge-street, Hyde Park. a 57

PROTECT YOUR FRUIT.—Tanned Garden Netting, only best quality supplied. Order promptly, as nets are scarce and must be dearer. 25 yds. by 8 yds., 50 yds. by 4 yds., and 100 yds. by 2 yds., 9s. each; add ten per cent. for other sizes.—L. WREN AND SON, 139, High-street, Lowestoft. y 39

GILLIES MARVELLOUS CONTROL-CLOTH, in vest pocket case, with clearly printed instructions for manipulation of Bees; two delivered anywhere, 7d. stamps. Re-charge Fluid, 9d., post free.—43, Dawson-street, Dublin. Agents wanted. y 61

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester.

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

WANTED, for Scientific purposes, QUEEN BEES and WORKER HORNETS. Will brother bee-keepers oblige?—HERROD, Apiary, Luton.

DRIVEN BEES, guaranteed healthy. Orders now booked; delivery in rotation; 1s. 3d. per lb., f.o.r. Boxes to be returned. Cash with order.—T. D. SINFIELD, 26, Upper George-street, Luton. a 38

DOOLITTLE STRAIN GOLDEN QUEENS. Virgins, 1s. 6d. by return post; Fertiles, 5s.; safe delivery guaranteed; Nuclei, with 1907 Fertile Queen, 12s. 6d., packed free, box returnable.—D. TAYLOR, Ilminster. a 30

SECTION GLAZING.—Best quality neat patterns in lace paper, made especially to my order (not common thin box edging). White, 1in. wide, 100 6d., 500 2s. 3d.; Pink, Green, Blue, 100 7d., 500 2s. 6d.; Lace Bands, White, 2⅞, 3, and 3⅛ in. wide, 100 1s. 3d., 500 4s. 6d.; Pink and Pale-blue, 100 1s. 6d., 500 6s. Cash with order; post free.—W. WOODLEY, Beedon, Newbury.

HEALTHY DRIVEN BEES, commencing August 1, 3s. 6d. per lot, with Queens; boxes to be returned; orders rotation. Cash with order. T. PULLEN, Ramsbury, Hungerford. a 34

WANTED, New Sections, first quality; prompt cash.—W. CHILTON, Southdown Apiaries, Polegate, Sussex. a 33

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw-cap jars, 77s. gross, 21s. ¼ gross; ½ lb. ditto, 45s. gross, 13s. ¼ gross; Honey in bulk, 48s. cwt.; samples, carriage paid, 8d. Further prices and particulars on application.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 74

HONEY JARS.—We have contracted largely for special well-finished machine-made screw-top jars, each washed and wrapped in paper, complete, with caps and cork wads, 15s. 6d. gross, 43s. 3 gross; ½ lb., 12s. 6d. gross, 37s. 3 gross.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 75

BRICE'S 1907 HYBRID QUEENS, tested, 5s. 6d.; Virgins, 3s.; safe arrival guaranteed.—HENRY BRICE, Brigstock-road, Thornton Heath. a 13

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

GOLDEN-ALL-OVER QUEENS, 6s. 6d. to £1. —E L PRATT. Swarthmore, Pa., U.S.A. Handsome 24pp. brochure free.

Editorial, Notices, &c.

THOMAS I. WESTON.

With the deepest regret we received a notification from his home at Hook, Winchfield, of the sad news of Mr. Thos. I. Weston's somewhat sudden death on the afternoon of Sunday, the 14th inst., from pneumonia, following on a chill caught while driving in the face of a cold wind a few days previously. The immediate cause of death was heart failure, but he had been in delicate health owing to lung trouble for some years, and since the beginning of the present year his health had been steadily failing, as those of us most intimate with him could plainly see.

Mr. Weston was the eldest son of Mr. Thos. Weston, salt merchant, of Lower Thames-street, London. Born at Greenwich, in October, 1848, he had only reached his twenty-first year when he caught a severe cold, which affected his throat and lungs, and, in consequence, had to give up office work altogether. Living in the country, and being fond of gardening and the open air, he gradually became stronger, and ultimately went to reside at Wickham Bishops, Essex. Here in 1884 he eventually became a bee-keeper.

THOMAS ILIFFE WESTON.
(From a photograph taken in 1892.)

Our older readers will remember Mr. Weston's apiary being illustrated in the "Homes of the Honey-Bee" in the B.B.J. of June 18, 1903. From the "notes" written at our request to accompany the picture we extract the following:—

"In response to your request for some particulars to accompany the view of my

apiary, I send you a few 'cuttings' from that portion of my life which I have given to bee-keeping, and the various interests bee-keeping has led up to. Circumstances took me to Wickham Bishops, in Essex, in 1880—a village distant some seven miles from Hazeleigh, where lived and died the Rev. George Raynor, one of the early fathers of modern bee-keeping. There were several bee-keepers in the parish who were more or less his pupils, and one of them, in November, 1884, sold me his two skeps of bees, being wearied of skep-keeping. My note-books tell me my next expense was a 'Bee-keeper's Guide Book,' on March 11, 1885; for spring had arrived, and the bees were busy, and I, of course, thought I must be busy with them too. Wanting to know how to go to work, I bought the 'Guide,' which I found most useful; but, at first, not having had practice, I went through the usual beginners' troubles. I sympathise both with them and you, Mr. Editor, when I read their queries and your ever-patient replies. I did not write to the B.B.J., but paid a visit to Hazeleigh, and then for the first time saw a large apiary. I can still picture to myself the tall, spare, white-headed man, courteous in manner, rapid of speech, with keen intelligence in his grey eyes, but sadly deaf, who hastened from hive to hive as he opened one or another to illustrate his remarks with the very object spoken of. The advice so kindly given that afternoon did much to make me a bee-keeper. Shortly after this visit I became a member of the Essex Bee-keepers' Association, their expert on his rounds giving me many useful hints, and showing in practice how bees are best handled.

"In 1891 my bee troubles began. Foul brood, which had been increasing in Essex, broke out among my bees, and I know how it came. It was a long battle before I quelled it, and it cost me from first to last between fifty and sixty stocks of bees, and the profits of three seasons.

"Thinking that the Association should do something to combat the disease in the county, I attended the annual meeting at Chelmsford, and thus became acquainted with the late Mr. F. H. Meggy, proprietor of the *Essex Chronicle* and Hon. Sec. of the Association. From then till 1898 I took an active part in the work of the Essex Association, the most difficult task being a census of the bee-keepers in the county, and the number of stocks they had in frame-hives and skeps. The information proved of much value to the expert in his work and to the secretary. In 1896 I was invited to join the B.B.K.A., and was shortly afterwards elected on the Council. In 1898 I took up the question of wax-extracting by solar heat—an old subject, but much neglected. After trying several forms of extractor I made one which worked sufficiently well to recommend for use. It was exhibited at the 'Royal' show at Birmingham, where a first prize was awarded it. In 1898, business cares took me away from my bees, and since then I have only done an occasional day's work there. I did not, however, give up the pleasure of meeting my colleagues in their work at Jermyn-street, my share in which need not be here referred to, beyond saying that I hope long to be able to assist them in promoting the welfare of bee-keeping in the United Kingdom."

Following on his election on the Council of the B.B.K.A., and in recognition of his active and useful labours, Mr. Weston was, in May, 1902, unanimously elected Vice-Chairman, and re-elected each succeeding year until the time of his decease.

Mr. Weston was a past Master of the Ancient and Worshipful Company of Salters.

Among the services rendered to the bee-industry in which the late Vice-Chairman was mainly instrumental in bringing to a successful issue may be mentioned the insurance scheme of the B.B.K.A., most of the intricate details involved being worked out by Mr. Weston in conjunction with the underwriters. Mr. Weston also undertook a large amount of work as an examiner of experts on behalf of the parent association, and also as judge at important shows in various parts of the kingdom.

Having been connected with Mr. Weston many times in the task of judging, we have no hesitation in saying that he was one of the best judges of honey that we ever met; none possessed a more accurate palate or a finer sense of aroma than our late friend, and it came to us with a touch of prophetic sadness, when, feeling very unwell at the recent Royal Show at Lincoln, after the day's judging was over and before we retired to rest, he said "I fear this is the last time we shall judge together."

Among the many letters read at the meeting of the Council on the 18th inst. we select the following as voicing the feeling of members unable to attend:—

"In common with all the members of the B.B.K.A. Council, I have this morning received with the deepest regret news of the death of our much-esteemed colleague, Mr. T. I. Weston. Had I been able to be present at the meeting on the 18th, I should, with melancholy satisfaction, have borne testimony to what our Association has owed to Mr. Weston.

"Though himself a delicate man, he did not shrink from the expenditure of time and trouble where the interests of apiculture were concerned. Were I, moreover, required to sum up his character in the simplest and fewest possible words, I

should say, 'He was a good man.' I shall not easily forget his firm but gentle ways, his clear-sightedness, his readiness to consider other people's views and opinions while holding his own with considerable tenacity, and his uniform courtesy in official and private relations."

"W. H. HARRIS."

"I am indeed grieved to hear the sad news you send me of our friend Mr. Weston's death.

"We admired his devotion to his work and the wonderful patience with which he went on in spite of physical infirmity that would have deterred most men from attempting a tithe of what he undertook and carried through successfully. It will be an irreparable loss for the B.B.K.A., for men of Mr. Weston's knowledge and experience as well as deep interest in the work are hard to find, and he was always ready to lend a helping hand. None better than yourself will realise what a loss his death will be to the Association."

"E. D. TILL."

BRITISH BEE-KEEPERS' ASSOCIATION

At the commencement of the meeting of Council of the British Bee-keepers' Association on Thursday, the 18th inst., the Secretary formally announced the death of Mr. T. I. Weston, which took place rather suddenly at his residence at Hook, Winchfield, Hants, on the afternoon of Sunday, July 14. A number of letters from absent members of the Council were read, expressive of the sincere appreciation in which Mr. Weston was held, and of deep sympathy with his relatives. As a mark of respect for the memory of the late Vice-Chairman it was resolved, as suggested by the Chairman (Mr. Cowan) in his letter, to adjourn all business.

The following resolution was moved, seconded, and carried:—"That the Council desire to place on record their sense of the irreparable loss sustained by themselves and by bee-keepers generally in the death of the Vice-Chairman of the Association, Mr. Thomas I. Weston, who for many years has devoted himself ungrudgingly to the interests of apiculture, with the entire esteem and appreciation of his colleagues; and in so doing has earned for himself the respect of all those with whom he was brought into contact.

"That this resolution be conveyed to Mrs. Weston and the family, with an assurance of the Council's sincere sympathy."

BOARD OF AGRICULTURE.

REPORT ON A DISEASE OF BEES IN THE ISLE OF WIGHT.

(*Continued from page* 285.)

Reverting to the particulars on page 284 last week, we repeat (for clearness) the details there given, which refer to Figs C and D, as shown on page 295:—

Thus Fig. C represents the usual types of pollen grains found in diseased bees received from Thorley. The grains *p* 1 predominate, *p* 2 are also common, while *p* 3 are few and far between. By counting the number of grains visible in the field of a Zeiss lens, objective D, and eyepiece 2, it was found on an average that 80 *p* 1 and 6 or 7 *p* 2 are present to every single one of *p* 3. Fig. D represents the usual kinds of pollen seen in the colon of diseased bees, obtained from Great Whitcombe, in which about 60 of *a* are present to about 7 of *b*, and but 1 of *c*.

The yellow amorphous material (*c* in Fig. C) is another constant feature; thus in forty-seven diseased bees from Thorley, specially examined for this substance, all contained an abundance of it; in twenty-one bees from Shanklin, all except two contained the substance, and in about a dozen bees from Great Whitcombe it was found to be present in all of them. The nature of this substance from an examination made for me by Professor T. B. Wood, M.A., of Cains College, leaves but little doubt that it is ordinary beeswax. In my own tests I found it to be unaffected by water, alcohol, osmic acid, or strong acetic acid. With strong sulphuric acid it rapidly turns a dirty green colour, while with nitric acid it rapidly loses its bright yellow colour and becomes greyish. It is soluble in both chloroform and xylol and partly soluble in potassium hydroxide, and when warmed on a glass plate it rapidly melts. In many cases this material seems to have been formed around a pollen grain, or several of the latter, as a nucleus, and, after treatment with caustic potash, they are often visible in the centre of the yellow material. In a very few instances a few stellate plant hairs (very like those of *Deutzia gracilis*), have been found among the contents of the colon, and in two cases they were noticed to serve, as it were, as a nucleus for this substance to be deposited around.

The obstruction in the digestive system is situated in the rectum itself, about the point *x* in Fig. B. The muscles of the rectum are tightly contracted and no pollen is able to pass through.

Smears made from the contents of the colon and fixed by heat in the usual way known to bacteriologists show large numbers of bacteria. The latter take the form, for the most part, of thick, short rods, and are readily demonstrated by staining with carbol-fuchsin.

An examination of the blood has also been made; samples of blood were obtained (*a*) by removing a leg; (*b*) by removing the dorsal wall of the thorax. The

blood preparations were stained in some cases with Leishman's stain and in others with carbol-fuchsin, but in no instance was any conclusive evidence of bacteria obtained.

The blood showed a great paucity of corpuscles and contained large numbers of minute, highly retractive "granules." They are visible in all the films made and do not appear to stain. There are none of the large fat globules present as figured by Cheshire in the blood of healthy bees.

The stored pollen from a diseased hive has also been examined and smears made in the same way as in the case of the blood. A few bacteria in the form of short rods were to be detected.

At the present time cultures are in progress, and samples from the contents of the colon, from the blood, and from stored pollen have been taken. These have been incubated in broth and plated in gelatine, and have been kept at room temperature and at 37 deg. C. No growth of any kind has resulted from the blood, a very slight growth from the pollen, and a very mixed growth of bacteria and a yeast (in small numbers) from the colon. The bacteriological work cannot be fully reported on or any conclusions drawn from it. If any conclusions are to be drawn from it, it is necessary to infect healthy stock with the germs that have been isolated.

Possible Connection between the Present Disease and "Dysentery."—Under normal conditions hybernation entails very little wear and tear to the bees themselves, and consequently tissue metabolism is comparatively small. The necesary food under such conditions comprises but a small quantity of pollen, which alone results in the accumulation of any solid residue on the hind gut. If, however, through neglect or an unusually severe or very damp winter, the inmates of a hive get chilled, "dysenteric conditions" often supervene. The bees attempt to counteract chilling by "flapping" their wings and by means of other movements. This production of heat is naturally brought about at the expense of the tissues, and carbohydrate food is insufficient to make good the wear and tear. Nitrogenous food becomes necessary, and pollen is, therefore, consumed in large quantities. Under these circumstances the bees frequently discharge themselves over the comb, as already noted in a previous paragraph, on account of the gut being overcharged with pollen. This condition is not, however, apparently true dysentery, for, according to Cheshire, the latter is due to a fungoid (yeast?) growth causing the distension of the hind gut.

There appears, however, to be some connection between the "dysenteric conditions" noted in the diseased hives and the disease at present under consideration. Possibly the former renders them predisposed to the latter, or they may be phases in one and the same disease. It has been already mentioned that the excrements appear to be similar in both cases.

It is noteworthy that about 5 per cent. of the diseased bees kept under observation have been noticed to discharge their excrement. This fact seems to suggest that the disease may possibly be amenable to the action of some suitable drug mixed with the food of the bees.

The death of the bees seems to be brought about finally by blood-poisoning, partly by the accumulation of toxins derived from the congested mass of waste material in the colon, and to some extent by the imperfect oxygenation of the tissues, owing to the pressure exerted on the abdominal air-sacs.

The demand for nitrogenous food seems to be one of the most marked characters of the disease, but why the demand should arise is a question which it is not possible at present to answer. As an experiment it might be worth while to supply liquid nitrogenous food and to remove the greater part of the pollen from the combs in winter.

Remedies tried by Bee-keepers. — Numerous remedies have been tried by different bee-keepers. The most successful case appears to be that adopted by a Shanklin keeper, who has successfully brought hives over from last year by feeding with cane-sugar, and up to the present they seem to be perfectly healthy. Others, however, have tried the remedy without any success. Several bee-keepers have tried re-queening, but only eventually to lose their stock. Importation of new swarms from the mainland has not been attended with any success. Syrup medicated with naphthol beta, izal, and with sulphur have all been experimented with, and also alcohol. Dusting with sulphur has also been tried, and also dusting and medicated feeding combined. No permanent success has attended any of these measures.

Remedial Measures Suggested.—I would suggest that all the remaining diseased stocks be destroyed and the hives be thoroughly charred inside and out, and afterwards repainted. All instruments used in connection with bee-keeping should be well disinfected. During the coming winter all fresh and already existing healthy stocks should be well looked after and kept warm, dry, and well-ventilated, and every care taken that no chilling or damping takes place. Whenever possible on warm days the bees should be allowed to take cleansing flights and be confined as little as possible. The tendency of the bees to distend themselves with pollen

should be prevented as far as possible by removing the greater bulk of the stored pollen, and such nourishment as is obtained from the latter should be supplied to them in a liquid form mixed with the artificial food. The bee-keepers are advised to experiment with beef jelly or a meat extract of a similar nature. This should be mixed with enough water to make it fluid, and then strained through very fine muslin and mixed thoroughly with honey or a suitable sugar syrup (both methods should be tried). Several pounds of the mixture should be given at a time in the

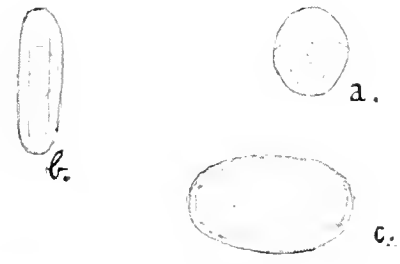

FIG. D.

FIG. C.

Fig. C.—Contents of colon of a diseased bee: *p.* 1, *p.* 2, *p.* 3 = pollen grains; *b.* = bacteria; *c.* = masses of wax. (From Thorley, March, 1907.) Fig. D.—Pollen grains from colon of a diseased bee. (From Great Whitcombe, March, 1907.)

early autumn and placed in the top story of the colony to be fed, just about night-time. This will give the bees a chance of storing it away quickly and care should be taken that they have plenty of the food.

This course of treatment is suggested as worthy of a trial, but it has not yet been possible to test its value experimentally.

A number of bee-keepers have been visited on the island, and have supplied information. The writer is especially indebted to the following, among others:—Mr. H. M. Cooper, of Thorley; Messrs. F. Rigby and J. W. Cooper, of Shanklin; Dr. R. Conyingham Brown, of Parkhurst; Rev. R. L. Morris, of Brook; Captain Fane, of Ryde; and Mr. C. Collister, of Bembridge.—A. D. Imms, April, 1907.

Reprinted from the "Journal of the Board of Agriculture" for June, 1907, by permission of the Controller of His Majesty's Stationery Office, who has also courteously supplied us with the original tone-blocks illustrating Mr. Imms' Report.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

FOUL BROOD AND REMEDIES.

[6787.] On page 65 (6621) Mr. Simmins sums up the preceding paragraphs thus: "The conclusion I have arrived at is that while a short period of heat at boiling-point may fail to destroy the spores of foul brood there is no reason whatever why a more protracted term at blood temperature should not bring about the end of their existence, where further propagation is out of the question." Mr. Simmins gave no explanation of the process by which spores kept in water at 65 deg. F. for six months were ultimately destroyed, and I naturally assumed that he thought the process was a simple and not a complex one.

It is well known that adverse conditions usually favour the formation of spores, but too low a temperature will prevent sporulation altogether, and it is this fact which is really responsible for the disappearance of bacilli and spores. In the case of honey, however, the fate of spores probably depends on the percentage of formic acid present. Samples with a low percentage might allow of their germination, whilst those with a percentage approximating to that of buckwheat honey would inhibit germination, but would not prevent such honey from becoming dangerous when used as bee-food.

I am still unable to see the practical value of Mr. Burrill's experiment. There is no comparison between keeping spores in water at room temperature for six months and intermittently diluting foul-broody material with a watering-can. The conditions in the two cases are entirely different, even if we omit the added antiseptic in the latter case.

Again: "He will carry the process of dilution right into the hive . . . by saturating the hive sides and his quilts with strong Izal solution, and may have his combs filled solid with medicated syrup." If this treatment is successful, is it not reasonable to suppose that success is due to the antiseptics used—otherwise, why use Izal and *medicated* syrup if plain water and simple syrup will suffice?—Thos. S. Elliot, Southwell, Notts, July 8.

BOSTON (LINCS) BEE-NOTES.

UNCONTROLLABLE SWARMING.

[6788.] I notice that your correspondent Mr. Farmer, on page 265, calls the present season a "record one." I have found it so in many ways. After having for some years been very successful in controlling swarming, I may say this year all old and approved methods have failed. In one case the bees swarmed with plenty of room in brood-frames for queen to lay in, and had in addition a shallow-frame super on. Several of my colonies have swarmed after being well started in supers, and one hive, from which an artificial swarm was made in May, reared a queen which had only been laying for ten or twelve days when they swarmed.

Honey-gathering here has also been most erratic this season. My best stock, which was "boiling over" with bees, had been continuously fed up to May 23, because of having absolutely no stores in the combs. We then had three good bee-days, and in that time a box of shallow-frames which I gave on the morning of Friday had all frames quite half-full by the Monday following. This hive has also proved that strong lots pay best, as about the end of May a good swarm united of themselves with the above stock, which now has three supers on all about full, while other fairly strong lots have gathered little or nothing. The quality so far seems A 1, judging from a completed section I took off for home consumption; it was filled with beautiful pale honey of very good flavour.

A swarm this year headed by a 1906 queen was hived on "starters" only, and on being examined ten days after, four-fifths of the combs built out were found to contain drone-cells only, while another close by, which had the frames spaced nearer together, has hardly built a square inch of drone-comb.

I believe some bee-keepers, when forming nuclei from swarmed stocks, wait four or five days after the swarm has come off before dividing. I recently went to a stock which had only swarmed two days, intending to divide same, but found that in that short time all queens had either hatched out or their cells had been torn open. The young queen in this hive has only just started to lay, although she was hatched nearly a month ago. But there is still time for full supers if only the weather alters at once.—F. B. THOMPSON, Brooklyn Villa, Tower Road, Boston.

PREVENTION OF SWARMING.

[6789.] I take it that "F. D. N., Framlingham" (6754, page 246) desires to know how to prevent swarming. May I, therefore, be allowed to offer him a bit of my ten years' experience among frame-hives and skeps? When I first commenced bee-keeping I came across a lot of skeps where the bees were persistently "hanging-out," but refused to swarm, though they had been expected to do so for weeks. In this way valuable time was being wasted, and so it came about that I was offered a chance to examine them. In several cases I found cells which appeared as if queens had hatched out from them, but still I was lost in doubt about the cause of it all. However, when I started with frame-hives, and also began to look after other people's bees in similar hives, my observations were more extended, and I was several times called upon to look to the bees. Among them were several hives that had re-queened themselves in the early spring, and this caused me to wonder if these stocks were headed by young queens hatched the same year, and that this fact was the real reason why the bees would not be disposed to force the queens from each hive with the swarm. Acting on this idea, I took particular notice of any bees that I found were hanging-out persistently in this way for weeks and not swarming, and as a result I have come to the conclusion that nine times out of ten a queen will not leave the hive with a swarm the same year that she is hatched. Of course I am not including casts with unfertile queens. I may be a bit wrong, but after several years of careful observation I have arrived at this conclusion, and it leads me to say that if your correspondent cared to re-queen his hives in early spring with newly-hatched queens he would not be troubled with swarms. I do not adopt this plan myself, being able to control swarming without it. I only had two swarms last year from twenty hives, and have had none so far this year from twenty-four hives. It would be of interest to have the experience of other readers on this subject in the B.B.J, which I have taken in for many years.—THOS. ROUSE (third-class expert), Rochford, Tenbury.

IMPROMPTU LECTURES.

[6790.] Having read the correspondence in B.B.J. on the examinations for first-class experts, I thoroughly agree with the views of your correspondent "Medico" on the subject (6769, page 263). It is quite certain that there are many first-class practical bee-men who could not get up right off and deliver an impromptu lecture. On the other hand I know a first-class expert who never possessed more than two or three hives that some one else almost entirely managed for him. What practical experience, I ask, can such a bee-keeper have compared with one who has twenty or more hives of his own to manage, besides looking after a score or two stocks belonging to other people? In my opinion the most practical men are not always the best talkers, therefore let us make a distinction.—T. A. R. (third-class expert), Tenbury.

SWALLOWS AND BEES.

[6791.] Some time ago there appeared a correspondence in your columns on the subject of swallows and bees, some difference of opinion being expressed as to whether swallows feed on bees. Having myself lately carefully watched what goes on, I can now say with absolute confidence that bees are preyed on in this way by swallows. On a bright day last week I watched the birds swooping over and in front of the hives, and time after time flying off with bees in their mouths. An interesting thing was to notice that the bees themselves seemed to be quite alive to the danger, as each time a bird flew off with his prey he was vigorously chased by a number of bees, whom, of course, he always managed to outfly.

As a preventive I have put up a number of 12-ft. poles about the apiary, and run numerous strands of cotton thread from pole to pole. Whether this will be a permanent cure remains to be seen, but I can only say that since they were put up five days ago the raids of the swallows seem to have ceased.—W. R. LISTER, Biggleswade, July 7.

Queries and Replies.

[3554.] *Supering with Standard Frames.*—I have three stocks of bees, all of which wintered well and came out very prosperous in the spring; but, owing to bad weather, I could not super them until the third week in June. I then gave an extra body-box of ten standard frames to each hive and lifted two or three combs of sealed brood from the brood-nest to the middle of each super, pushing up the combs in brood-chamber below and replacing them with frames of foundation. In two cases the bees have taken to the supers, and the brood therein has been kept warm and all is well; but in the third lot, a stock of Italians, the bees have left the frames of brood in the super and gone below, with bad results, of course. I only reserved two frames of brood in this case, and I am sending you pieces of comb cut from them. Three weeks ago these two combs were solid slabs of brood, clean and healthy, and when I saw them yesterday I was astounded at the resemblance to the photo. of foul brood in the "Guide Book." I should be very pleased to have your remarks on same in the B.B.J. I promptly burned the two combs in question with the exception of pieces sent. A sheet of foundation (weed) which I placed in the brood-nest when supering now contains brood in all stages, and I find, on examination, that a few of the cappings are perforated, as is the case with the older combs, though not nearly so bad as these I am sending. One of the combs sent contained hatchings bees last evening, so I left it in the brood-nest all night, but decided this morning to destroy it. That accounts for the few eggs you might see in the piece of comb. If foul brood is present, will you please advise me with regard to (1) the exact stage in which you find it? (2) Should I destroy all brood-combs and run stock into a clean hive on new foundation, or would spraying with soluble phenyle be effective? You must not form an opinion of the brood-nest from samples sent, as it is not nearly so bad, though tenanted by the same bees. Name sent for reference.—J. B. H., Wakefield, July 8.

Reply.—First let us say, whatever difference of opinion there may be on the general question of using the standard in preference to shallow-frames for surplus honey in an ordinary season, the weather conditions of the past three months should have made it plain to all that the larger (or standard) frame was quite unsuitable for use this season compared with the shallow-frame when working for extracted honey. It was also injudicious, to say the least, to remove combs full of brood from the warm brood-chamber below into large and comparatively cold surplus-chambers, as stated, in such treacherous weather as has been the rule this year. Anyway, we are very pleased to hear that two of the stocks have taken no harm so far. The comb sent is affected with foul brood, but if the bees are strong in numbers we advise dealing with the stock from which it was taken by getting the bees off the combs and dealing with them on the starvation plan, as directed in the "Guide Book."

[3555.] *About Swarming.* — Will you kindly, through the Bee Journal, answer me the following questions:—1. When swarming, does the old queen issue with a swarm before the young queen hatches out; and, if so, how long before? 2. How old is the young queen before she begins to lay? 3. When a second swarm comes off, is the young queen fertilised before she issues with the bees or afterwards? I send name and address for reference, and sign.—Nabob, Great Horton.

Reply.—1. The parent queen, as a rule, issues with the first swarm, leaving behind several young queens in process of hatching, and usually eight or nine days later a second comes off headed by the most forward of the young queens mentioned. 2. This depends on how long a time elapses before safe mating is assured. Generally about a week later eggs will be found. 3. No; fertilisation usually takes place afterwards.

[3556.] *Making Artificial Swarms.*—Enclosed herewith please find small piece of comb, taken from a hive from which an artificial swarm was made on June 11. The stock is small, and, after examination, I can find no trace of any queen in the hive. From description in the "Guide Book" I fear this is a case of foul brood. Kindly give your opinion, and say if contents of hive had better be burned, as advised on page 152?—W. B. C., Notts, July 20.

Reply.—There is no foul brood in comb sent. The appearances point to death of brood from starvation and insufficient bees to keep the larvæ warm after the natural heat-producer (bees) had been carried off as a swarm. We fear the stock was not strong enough in bees to allow of its being artificially swarmed in June. If the bees are worth saving, and are queenless, they might have a queen given to them. Otherwise we should destroy them, along with all combs containing dead brood.

Bee Shows to Come.

July 31, at Henbury, near Bristol.—Annual show of Honey and Wax of the Henbury District Bee-keeper's Association, in connection with Horticultural Society's Exhibition. **Entries closed.**

July 31, at Upwell, Wisbech, — Horticultural Society's Show. Open classes for Honey, including gift class for 1-lb. jar. Schedules from Hon. Sec., J. Hy. Inman, Upwell, Wisbech. **Entries invited.**

August 5 (Bank Holiday).—Annual Honey Show of North Norfolk B.K.A., in connection with the Melton Constable Horticultural Association. Schedules from C. J. Cooke, Edgefield, Melton Constable. **Entries close July 27.**

August 8, at Abingdon Park, Northampton.—Honey Show of the Northants B.K.A. Two Special Classes, including one for single 1 lb. Jar Honey. Entry free. Prizes, 20s., 10s., 7s. 6d., and 2s. 6d. Schedules from R. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 3.**

August 8, at Madresfield, Malvern (Madresfield Agricultural and Horticultural Society).—Annual Show of the Worcestershire B.K.A. Open Class. Schedules from Geo. Richings, 2, Shrubbery-terrace, Worcester. **Entries close August 3.**

August 8 to 10, at Barnsley.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. **Entries closed.**

August 14, at Wye (Kent Honey Show).—Five Classes open to the United Kingdom. Trophy Cup value £3.3s. (entry 1s.), 1 lb. Section, 1 lb. Light Run, 1 lb. Dark Run, 20s., 10s., and 5s. in each case (entry free); Beginner's outfit, retail price not to exceed 30s. (entry free). Open to Kent only (fourteen Classes): President's Challenge Cup, value £6 6s., for 6 1 lb. Sections and 6 1 lb. Jars Extracted Honey. Money prizes for 6 Sections, 6 Jars Light, 6 Jars Medium, 6 Jars Dark, 2 Shallow or Standard Frames, 3 Sections and 3 Jars, Beeswax, Mead, Candy, Cake Sweetened with Honey, Display of Cut Flowers, &c., &c.; two Special Classes for Cottagers. Schedules of J. Tippen, Secretary, Wye, Kent. **Entries close August 7.**

August 16, in Public School, Portwilliam, Wigtownshire.—Honey Show in connection with the Horticultural Society. Classes for Sections and Extracted Honey, open to amateurs and cottagers. Challenge Class (open to all) for 3 1 lb. Jars Extracted Honey, prizes 20s., 12s., 8s., and 4s. Schedules from Secretary, Horticultural Society, Portwilliam, N.B.

August 21, at Lancaster.—Show of Honey, &c., in connection with the Lancaster Agricultural

Society's Annual Show. Open Classes for Extracted and Comb Honey, also Beeswax and Produce. Challenge Cup value £5 5s., also six silver and bronze Medals, and other Specials. Schedules from Thos. Armitstead and Son, Auctioneers, Lancaster. **Entries close August 7.**

August 21, at Radstock.—Annual Show of the Somersetshire B.K.A., in connection with the Radstock Horticultural Association. Seven open and two free classes; good prizes. Schedules from Herbert J. Moore (Show Secretary), Foxcote, Radstock. **Entries close August 14.**

August 21 and 22, at Shrewsbury.—Shropshire B.K.A. Annual Show, in connection with the Shropshire Horticultural Societies' Great Floral Fête, in the Quarry, Shrewsbury. Nine Open classes for Honey and Wax. Free entry for single 1 lb. jar and single 1 lb. section. Schedules from S. Cartwright, Hon. Sec., Shawbury, Shrewsbury. **Entries close August 9.**

August 28, at Chester (Cheshire Agricultural Society's Show).—Bee and Honey Department, under management of the C.B.K.A. Open classes for Hives, Sections, and Extracted Honey. Increased prizes. Members' classes, District class. Special prizes offered by Chester Tradesmen's Association. Schedules from T. A. Beckett, St. Werburgh's-chambers, Chester. **Entries close August 7.** Post entries at double fees to **August 14.**

August 28 and 29, at Rugby (Warwickshire B.K.A.).—Show of Honey and Bee Appliances, in connection with the Annual Show of the Warwickshire Agricultural Society Schedules from Jas. N. Bower, Hon. Sec. Warwicks. B.K.A., Knowle.

August 28 and 29, at Osmaston Park, Derby.—Annual Show of the Derbyshire B.K.A. Increased prizes. Reduced entry fees. Schedules now ready. Apply, R. H. Coltman, Secretary, 49, Station-street, Burton-on-Trent.

September 5, 6, and 7, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-five Classes (nine open to all). Increased prizes and medals. Schedules from F. B. White, Secretary, Marden House, Redhill, Surrey. **Entries close August 22.**

September 7, at Bramhall, Stockport.—In the grounds of the Bramhall Hall, by permission of C. H. Nevill, Esq., Honey Show in connection with the District Horticultural Society. Low entrance fees. Three Open Classes, with liberal prizes. Schedules from J. Sibson, Bramhall, Stockport. **Entries close August 31.**

September 12, at Castle Douglas (South of Scotland B.K.A.).—Exhibition of Honey and Wax in connection with the Dairy Show at Castle Douglas. Five Open Classes; Three Bottles Run (20s., 12s., and 6s.); Three Sections (15s., 10s., and 5s.); One Bottle (4s., 2s., 1s.); One Section (4s., 2s., and 1s.); Wax (5s., 3s., and 2s.). Schedules from Q Aird, Hardgate School House, Dalbeattie, N.B. **Entries close August 31.**

September 25, at Altrincham.—Honey Show, in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. Classes for Trophy of Honey, for Best Hive, Observatory Hive, with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester; Amateur-Built Hive, two Shallow Bars, Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low Entrance Fees. Schedules from Mr. J. Herbert Hall, 2, Dunham-road, Altrincham. **Entries close September 7.**

Notices to Correspondents.

J. Solari (Dudley).—*Varieties of Heather.*—Of the three sprigs of heather sent, No. 1 is *E. cinerea*, or bell heather; No. 2, *E. tetralix;* and No. 3, *Calluna vulgaris*, or common ling. The last-named is the best for bees, as yielding the finest heather-honey. No. 2 is of no value as bee-forage. If No. 3 is flowering well, it might be worth the cost and trouble of taking half a dozen or more hives to the place, but not otherwise.

W. P. (Silsden).—*Bee Nomenclature.*—The bees sent are the common or native variety, robbers from neighbouring hives which have made an attack on yours.

H. H. B. (Lincs.).—Your sample must have miscarried in post, for we cannot trace it. Was it carefully and safely packed?

Suspected Combs.

D. E. E. (Breconshire).—Comb is affected with foul brood. As the disease is not in advanced stage you should—if the stock is strong—get bees off combs and treat them as directed in the "Guide Book," re-queening the stock if possible.

G. G. J. (Southport).—Comb shows slight signs of foul brood in the incipient stage. It appears to be only a recent outbreak, and if preventives are used, with care the disease will probably be checked.

Doubtful (Forfarshire).—Comb is affected with foul brood of old standing.

Dictamus (Bromsgrove).—The bulk of the larvæ in cells are apparently quite healthy, being plump, and white, but here and there we find a cell in which the larva is clearly affected with foul brood. This points to the fact of the remedies used checking the progress of the disease. We advise deferring further measures till the honey-flow begins to fail; then examine the combs, and deal with them according to their condition at the time.

Wrysgan (N. Wales).—Sample No. 1 is affected with foul brood, and, being black and old, all such combs should be burnt, along with the skep from which they were taken. No. 2 is apparently free from disease if all combs are similar to sample. The same may be said of No. 3, but there is plain evidence in comb showing that the queen is old and worn out—is, in fact, a drone-breeder. The stock is therefore of no use or value as a stock.

A. G. (Methwold, Norfolk).—The comb sent is diseased, but the symptoms are not those of *Bacillus alvei*, being more in accordance with those of the newly-discovered disease now being investigated by scientists on the Continent. We hope to learn more of this disease in a few weeks, and will publish it in due course.

S. D. (Charing, Kent).—There is no foul brood in comb. The colony is evidently headed by an aged and worn-out or unmated queen, or else it contains a fertile worker. In any case, the stock is worthless, worker-cells being occupied with drone-brood.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

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HEALTHY DRIVEN BEES WANTED, in 4, 6, or 8-lb. lots, first and second week in August; will give 1s. per lb., provide travelling boxes, and pay carriage. Cash by return post after receipt of bees.—J. BALMBRA, East Parade, Alnwick. a 76

THREE-FRAME NUCLEI, 10s.; Healthy Stocks on Wired Combs, from 20s. each. Good Sections Wanted.—R. CARTER, Chartridge, Chesham, Bucks. a 87

EIGHT GOOD SWARMS, from Bar-frame Hives, 10s. 6d.; also a few 3-frame Nuclei, 10s. 6d., with 1907 Queen.—BARLOW, Hartshill-road, Stoke-on-Trent. a 86

Special Prepaid Advertisements.—*Continued.*

BLACK Minorca Cock and Cockerel, fine Pure Birds. Sell, or exchange for Driven Bees.—R. THURLBY, Wallington, Surrey. a 82

DRIVEN BEES FOR SALE.—Old customers, apply, W. MARTIN, Well Cottage, Downley, High Wycombe.

COMPLETE Trophy Stand for Sale, cheap, consisting 36in. mirror, 6 plate glass shelves, pedestals, travelling boxes, and made to suit 3ft. or 4ft. table; first at Lincolnshire, 1906, and first Royal Show, 1907, only times shown.—T. S. HOLDSWORTH, Kirton Lindsey, Lincolnshire. a 85

WANTED, Two Hives of Bees, strong, good condition, full Winter Stores.—Send particulars. BUTCHER, Timberland, Lincoln. a 75

FOR SALE Stocks of Bees, on Wired Frames, in W.B.C. Body Boxes, well stored, health and vigour guaranteed, carefully packed, free on rail, 22s. Cash or deposit.—A. GREEN, Tangley, Andover. a 74

QUEENS.—The very best (see Advt. page v. "B.B.J." last week). Nuclei, 4-frame, 12s. 6d. Stocks from 20s. Driven Bees, Sept., 1s. 6d. per lb.—CHARTER, Tattingstone, Ipswich.

NEW SECTIONS, clean and well filled, glazed, carefully packed, package and put on rail free, 10s. doz.—AVERY, Deverill, Warminster. a 77

HEALTHY DRIVEN BEES.—Good lots. Young Queens, delivery middle August, 5s. per lot; boxes free.—H. KEMP, Frome, Somerset. a 81

HEALTHY DRIVEN BEES, 5s.; Stocks in Hives, 27s. 6d.—HANNAM, Highgate-road, Birmingham. a 84

WANTED, Good Sections, any quantity. Prompt cash.—DELLS, County Apiaries, Leigh, Lancs. a 69

STRONG, NATURAL SWARMS, guaranteed healthy, 12s. 6d. packed, safe delivery.—CADMAN, Codsall Wood, Wolverhampton. a 67

THREE-FRAME NUCLEI, 1907 Laying Queen, 10s. cash; Strong Stocks, 20s. each.—HEMMING BROS., Standlake, Witney. a 73

QUEENS, CHOICE 1907, bred from my Non-Swarming Stocks, 3s. 6d. each.—TAYLOR, Boldmere, Wylde Green, near Birmingham. a 66

DRIVEN BEES, from 15 Straw Skeps, by the second week in August, 1s. 3d. per lb. Would take part value in Bee Appliances.—C. BRUNGER, Coleshall Cottages, Iwade, near Sittingbourne. a 64

WANTED, for cash, 1 cwt. Best Light Clover English Run Honey, for 42s., free on rail, empty returnable. Send 2 oz. sample.—A. S. BURN, Market Lavington, Wilts. a 62

FOR SALE, 500 Young Fertile Pure Carniolan Queens, 4s. each; also 500 Young Fertile Caucasian Queens, 7s. each; cash with order.—HAUNSCHILD, Weissbach-by-Pulsnitz, Saxony.

31ST YEAR.—Healthy Driven Bees, 5s. 6d., cases free.—ALSFORD, "Expert," Haydon, Sherborne. a 52

3-FRAME NUCLEI, 10s.; strong, healthy Stocks, in wired combs, from 20s. each.—R. CARTER, Chartridge, Chesham, Bucks. a 50

"NONDESCRIPT" Device for Prevention of Foundation Stretching and Repairing Faulty Combs; sample set, P.O. 1s. 1d.—W. PALMER, Gate House, Maghull, Liverpool. a 35

SECTIONS WANTED for cash.—Apply T. SMITH AND CO., 17, Cambridge-street, Hyde Park. a 57

Special Prepaid Advertisements.—*Continued.*

GILLIES MARVELLOUS CONTROL-CLOTH, in vest pocket case, with clearly printed instructions for manipulation of Bees; two delivered anywhere, 7d. stamps. Re-charge Fluid, 9d., post free.—43, Dawson-street, Dublin. Agents wanted. y 61

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

WANTED, for Scientific purposes, QUEEN BEES and WORKER HORNETS. Will brother bee-keepers oblige?—HERROD, Apiary, Luton.

DRIVEN BEES, guaranteed healthy. Orders now booked; delivery in rotation; 1s. 3d. per lb., f.o.r. Boxes to be returned. Cash with order. —T. D. SINFIELD, 26, Upper George-street, Luton. a 38

DOOLITTLE STRAIN GOLDEN QUEENS. Virgins, 1s. 6d.; Fertiles, 5s.; safe delivery guaranteed; Nuclei, with 1907 Fertile Queen, 12s. 6d., packed free, box returnable. — D. TAYLOR, Ilminster. a 30

SECTION GLAZING.—Best quality neat patterns in lace paper, made especially to my order (not common thin box edging). White, 1in. wide, 100 6d., 500 2s. 3d.; Pink, Green, Blue, 100 7d., 500 2s. 6d.; Lace Bands, White, 2⅞, 3, and 3⅛ in. wide, 100 1s. 3d., 500 4s. 6d.; Pink and Pale-blue, 100 1s. 6d., 500 6s. Cash with order; post free.—W. WOODLEY, Beedon, Newbury.

HEALTHY DRIVEN BEES, commencing August 1, 3s. 6d. per lot, with Queens; boxes to be returned; orders rotation. Cash with order. T. PULLEN, Ramsbury, Hungerford. a 34

WANTED, New Sections, first quality; prompt cash.—W. CHILTON, Southdown Apiaries, Polegate, Sussex. a 33

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester.

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw-cap jars, 77s. gross, 21s. ¼ gross; ½ lb. ditto, 45s. gross, 13s. ¼ gross; Honey in bulk, 48s. cwt.; samples, carriage paid, 8d. Further prices and particulars on application.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 74

HONEY JARS.—We have contracted largely for special well-finished machine-made screw-top jars, each washed and wrapped in paper, complete, with caps and cork wads, 15s. 6d. gross, 43s. 3 gross; ½ lb., 12s. 6d. gross, 37s. 3 gross.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 75

BRICE'S 1907 HYBRID QUEENS, tested, 5s. 6d.; Virgins, 3s.; safe arrival guaranteed.—HENRY BRICE, Brigstock-road, Thornton Heath, a 13

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

GOLDEN-ALL-OVER QUEENS, 6s. 6d. to £1. —E. L. PRATT, Swarthmore, Pa., U.S.A. Handsome 24pp. brochure free.

W. P. MEADOWS,

SYSTON, near LEICESTER.

Telegrams: "MEADOWS, SYSTON." Nat. Tele. 2 X.

ROYAL SHOW, LINCOLN, 1907.

NOTE AGAIN to the FRONT. 2 FIRST 2 SECOND 2 THIRD **PRIZES**

Send for KAT-A-LOG.

Editorial, Notices, &c.

REVIEWS.

Roses. By T. W. Sanders, F.L.S. (London: Agricultural and Horticultural Association.)—This is the ninth issue of the "One & All" garden books edited by E. O. Greening, F.R.H.S., and which are being brought out at the low price of one penny. This popular article on the queen of flowers is by a well-known competent authority. It is well illustrated, and every lover of the rose may learn how to select, plant, prune, and train his favourites to the best advantage.

Garden Making. By Edward Owen Greening, F.R.H.S.—This is another of the above series of garden books, and the author—who is an enthusiast on garden provision for the people—explains simply and clearly the chief things to bear in mind in choosing, laying out, planting, and cultivating both large and small gardens. Like the rest of the series, this—the tenth—is well illustrated, and only costs one penny.

How I Work my Small Farm. By F. E. Green. (London: A. C. Fifield. In paper, 1s. net; cloth, 2s. net.)—The author of this interesting little book shows what can be done on a small farm of ten acres. He gave up London life some years ago, and settled in Surrey, and warns those "delightful city folk who expect to find the conditions of country life sympathetic to the realisation of leading a simple life, that simplicity is as rare a quality in Arcadia as it is in the crowded market-place." He further tells us "that the business of conducting a small farm is very complex. One has to be a bit of a carpenter, a bit of a carman, a bit of an engineer, a bit of a bricklayer, a bit of a biologist, botanist, and veterinary surgeon, as well as a bit of a weather prophet. You must know something of woodcraft: how to handle a billhook and fagging-fork; how to swing a scythe and split rods for thatching. Above these useful technical accomplishments you must learn the necessary but hideous art of driving a bargain." After several years' hard work and an expenditure of a capital of £865, Mr. Green last year obtained a profit of £47 for his year's labour. This is not much encouragement to those who have fanciful ideas as to the financial gains from small farming. The author has cows, bees, pigs, poultry, fruit, and vegetables, and he says in his chapter on bees: "Next to cows, I place the greatest value on bees as the safest and most profitable 'live stock' for the occupier of a small farm." The book contains, amongst others, a nice illustration of the author's apiary of fifteen frame-hives, to which number he has increased from three with which he began three years ago. The author is a member of the Surrey Beekeepers' Association, but has not exhibited his honey, as he has been able to sell his honey as fast as he could get it despatched. His experience with bees ought to be an encouragement to others. The worst of Mr. Green's ventures appears to be vegetable-growing for market, and poultry. He tried supplying private customers, but had to abandon it; and as for poultry, when he had 200 hens he could only make a profit of £6, but upon reducing to twenty-four—the number he now keeps—he can show a profit of £4 2s. 7d. We would certainly recommend a perusal of the book, and feel sure that this record of the methods by which he has won success will be found of great use by all who are contemplating a start or are advocating small holdings, while its simple style will recommend it to the general reader.

STAFFORDSHIRE B.K.A.

ANNUAL SHOW AT BURTON-ON-TRENT.

The annual show of the S.B.K.A. was held at Burton-on-Trent, in conjunction with the Staffs. Agricultural Society's meeting, on July 17 and 18. In point of number of entries the exhibition showed distinct improvement. It was estimated that quite a ton of honey was sent in for exhibition, and the quality was reported to be of a very high standard. Especially was this the case in the open classes, where the judges had great difficulty in making the awards. The gold medal given for the best display of 100 lb. of honey was awarded to Mr. Durose, of Burton, and presented to him during the afternoon by Lady Cooper, of Shenstone Court. In making the presentation, her ladyship spoke of the interest she took in bee-culture, and said that she did everything in her power to encourage people to keep bees. The winner of the gold medal, she pointed out, was a gardener, and she wished all gardeners could be prevailed upon to follow his example and qualify themselves for the expert's certificate. The exhibition was universally regarded as a most successful one, and much of the credit is due to Mr. Tinsley, the Association's expert, who has worked hard in furthering the interests of the Association since he took office in succession to the late expert, Mr. R. Cock.

Messrs. E. Clowes and J. R. Critchlow, both of Newcastle, judged the bee-exhibits and made the following awards:—

Honey in any form, not exceeding 100 *lb.*—1st, S. Durose, Burton-on-Trent; 2nd, W. H. Bird, Stapenhill; 3rd, H. C. Barlow, Stoke-on-Trent.

Twelve 1-*lb. Sections.*—1st, J. W. Myatt, Eccleshall (no other prize awarded).

Twelve 1-*lb. Jars Light Extracted Honey.*—1st, Thos. Tinsley, Norton Bridge; 2nd, S. Durose; 3rd, W. H. Bird, Stapenhill; 4th, D. W. Clarke and Son, Cannock.

Twelve 1-*lb. Jars Medium or Dark Honey.*—1st, H. C. Barlow; 2nd, G. H. Mytton, Lichfield; 3rd, W. Sproston, Shugborough.

Six 1-*lb. Jars Granulated Honey.*—1st, Thos. Tinsley; 2nd, W. H. Bird; 3rd, S. Durose.

Three Frames of Comb Honey for Extracting.—2nd, G. H. Mytton (no 1st or 3rd awarded).

Observatory Hive.—1st, S. Durose; 2nd, G. H. Mytton.

Beeswax.—1st, J. Price, Old Hill; 2nd, W. Thomas, Rugeley; 3rd, H. C. Barlow, Stoke; h.c., G. Evans, Bromstead; c., J. Kendrick, Stone.

Twelve 1-*lb. Sections.*—1st, A. H. Evans, Stone; 2nd, A. Bateman, Tamworth.

Twelve 1-*lb. Jars Extracted Honey.*—1st, S. Durose; 2nd, W. H. Bird; 3rd, T. Tinsley; h.c., D. W. Clarke and Son.

COTTAGERS' CLASSES.

Twelve 1-*lb. Sections.*—1st, Elijah Stanier.

Twelve 1-*lb. Jars Extracted Honey.*—1st, G. Evans; 2nd, Elijah Stanier; 3rd, W. Tildesley; h.c., J. Lymer.

OPEN CLASSES.

Twelve 1-*lb. Sections.*—1st, C. Lodge, Chelmsford; 2nd, J. G. Nicholson, Langwathby, Cumberland; 3rd, J. Pearman, Derby; 4th, J. Dyer, Compton Newbury; v.h.c., E. Clowes, Stoke; h.c., W. H. Brown, Wellington; c., W. Woodley, Newbury.

Twelve 1-*lb. Jars Extracted Honey.*—1st, C. Laywood, Market Rasen; 2nd, J. Pearman; 3rd, W. J. Cook, Binbrook; 4th, R. Morgan, Cowbridge; 5th, W. H. Bird; v.h.c., S. Durose and H. Selworth; c., C. Lodge and W. Woodley.

Single 1-*lb. Jar Extracted Honey.*—1st, W. H. Brown; 2nd, R. Morgan; 3rd, H. Dilworth; 4th, G. M. Coles, Heythorpe; 5th, W. H. Bird; v.h.c., H. W. Saunders, Thetford.

1-*lb. Section.*—1st, C. Lodge; 2nd, W. H. Brown; 3rd, S. Durose.

Collection of Hives and Appliances.—1st, E. H. Taylor, Welwyn; 2nd, G. Rose, Liverpool.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[6792.] The honey-harvest is fast drawing to a close in the South, except in such districts as are favoured with such late forage as brambles and buckwheat. Near me few brambles are now seen since the new up-to-date farming has superseded the old. The latter end of the harvest (which has been a very poor one) will, I fear, leave stocks badly off as regards winter stores, and will require a good supply of syrup so that the bees may seal it over before winter.

In the management of supers I advise removal of sections as soon as completed. In cases where the racks come off with the end sections not properly sealed, the latter can be replaced on the hive for completion if honey is still coming in. When carrying out this plan tie a square of glass at each end of parcel with dividers between the sections to be sealed; place these over a long oblong hole across the centre of the quilt, then wrap up warmly.

I have received several letters asking my opinion with regard to the price honey ought to fetch this year. To some of these my reply has been that, owing to the short supply, a rise in price should be asked by the few who are fortunate enough to have honey for sale. For myself, I think best-quality sections should not be retailed under 1s. 2d. each; the lower grades will, of course, not be worth so much, but if the retailer is making 1s. to 1s. 2d. or 1s. 3d. per section, bee-keepers should charge from 10s. to 12s. per dozen for good-quality glazed sections (unglazed sections, 1s. per dozen less). I would earnestly impress on every bee-keeper to glaze his honey, as being the means of increasing the demand for comb-honey in sections.

I have no doubt Mr. Lister (6791, page 297) is correct in his note on swallows eating bees. I never allow swallows to build nests on my house, yet we get them skimming over the hives and carrying off the bees; but sparrows are worse than swallows in this respect, especially during the month of July.

Re-queening.—This will be required where no swarms have issued and the bees have not re-queened themselves. To those

who intend re-queening I say do not hybridise your and your neighbour's bees by the introduction of foreign blood without consulting him, or in a year or two the latter may feel unneighbourly if you turn your erstwhile docile strain of bees into veritable demons.—W. Woodley, Beedon, Newbury.

ROSS-SHIRE NOTES.

HONEY AT LAST.

[6793.] Summer and the honey-flow came with a single stride. One evening I was trudging apiarywards with a heavy heart and heavier burden of sugar-syrup, the next hurrying on supers in frantic haste.

To begin with, we had four days of intense heat, and honey came in rapidly. I had an Italian stock fill a standard-depth super solid in that short period. The good time was all too brief, and since then, with dull, cool weather, honey has come in but slowly, so the outlook as regards comb-honey is less satisfactory. The few dozen combed sections carried over from the previous season are completed, but in those with foundation only very little sealing has been done as yet.

There is no doubt about the surplus, even young stocks of the current season having two racks of filled sections apiece to their credit; but at the moment everything points to a crop considerably smaller than was in sight at the corresponding period last year.

Some bee-keepers lost the half or two-thirds of their stocks last month, and in many cases bees were thrown back to such an extent that they have not yet entered the supers.

Our forage-ground is still untouched by the mower, and every field displays a wealth of clover blossom; but cold, wet weather has put a complete stop to honey-gathering for the present.

Prices run from 1s. to 1s. 2d., and those lucky enough to have really good sections—I took off some sealing 18 oz.—should hold out for the first-named figure in a poor season like this.

The Heather.—With August, those who lost the previous crop must needs turn their eyes to the purple hills, from whence, weather permitting, may come substantial aid. The heather bloom is already in sight, and, should the present rains be followed by warmth, may yield heavily at an early date. Let us be ready, then, and do all we can to get this last precious crop stored in the right place. Much depends on arrangement of brood-nests. All stocks must be contracted down to nine frames, and particular attention should be paid to those at each side as being most likely to be blocked with the fragrant heather-honey.

In my opinion, the ideal conditions for autumn work would comprise seven frames filled with brood, protected by two outer combs solid blocks of clover-honey, excepting small centre patches of brood. Then, with two racks of combed sections placed at right angles to the brood-frames and snugly wrapped up, rest confident that the bees are put in shape to do their best for *you*.—J. M. Ellis, Ussie Valley, July 27.

RENEWING BROOD-COMBS.

[6794.] In my note, page 247 of B.B.J. for June 20, I stated that renewal of brood-combs was absolutely essential. This is not exactly what I meant to say. I cut my remarks very short, and should have said "desirable." There is no rigid rule—the bee-keeper must use his intelligence in judging, because there may be a few diseased cells in a comb; if these are cut out cleanly, the comb is safe again for use. In fact, so long as the disease has not been permitted to reach the spore or dry stage there is no infection in the hive, save only in the particular cells affected. A friend near here has fifty-two stocks of bees, and he does not renew the combs, but simply cuts out the cells affected. I often renew combs as a matter of personal preference rather than of necessity. If the bee-keeper detects diseased cells as they occur and injects a germicide, the combs are, in my opinion, all right and safe for use.

In some cases, such as the occurrence of several weeks of bad weather, the disease might go ahead if the bees got short of food and went robbing diseased colonies; and in such a case renewal is no doubt necessary. The great point which I consider that bee-keepers should bear in mind is that there is no general infection in a hive so long as the dry or spore stage is prevented; nor does there appear to be any risk of carrying infection on the hands, &c. I consider that even a spray is not absolutely necessary. A piece of stick dipped in strong germicide and well stirred round in the cell should answer just as well. But mere spraying is not thorough enough. The infected matter must be thoroughly mixed up with the solution; and if the bee-keeper can attend regularly to his stocks he need not fear the disease very much, though it would of course be better if removed out of a district altogether. But no one need lose heart even if foul brood does exist near him. He must, of course, work harder than before. A most essential point is to keep the bees from "robbing" by giving them plenty of food at home. I find by experience that this is the best preventive of disease. To reasonable legislation there need be no objection, but to destroy

a lot of wax or honey because there has been slight foul brood in the hive is not reasonable. Some hives might, of course, need burning, but all should not be so treated.—W. J. FARMER, Redruth.

RUNAWAY SWARM KILLS QUEEN.

[6795.] Three weeks ago my baker sent a message that "a swarm of bees had settled in a jessamine tree over his side-door. Would I fetch them away?" I was not at home at the time, but returning two hours later, I hived the swarm. They were hybrid Golden Italians, a fine large bee, and, I should say, some of Sladen's strain. I congratulated myself upon so easily getting some of these famous bees. The weather being bad, I fed them regularly, and four or five days later, having given them some drawn-out combs, I expected to see some eggs; but no. I then concluded from appearance of queen that she was a young one. Another week passed, and no eggs. The third week elapsed, and still no eggs, though I had fed the swarm regularly, until one day I observed a commotion at the hive. The bees were seen to be chasing the queen outside in front of the hive; she once or twice took wing for a yard or two, and appeared unable to fly properly. Then the bees began to "ball" her. I rescued and put her in a cage, liberating at night. Next day the same performance was repeated; I rescued her again, and proceeded just as before, liberating at night; but this time they killed her, for upon examining the hive next day I found her dead!

I have come to the conclusion that it was either a cast or the weather had delayed the swarm coming off, that this was a young queen with the swarm, and the exertions of flying, possibly for a long distance when only perhaps a few hours old, in not the best of weather, injured her, and rendered her incapable of making her mating trip. The bees knew this, and therefore killed her. She was not injured in the hiving, for I saw her on the cluster, and directed her into the hive.—J. SILVER, Croydon, July 15.

ITALIANS *VERSUS* NATIVES.

[6796.] I have been much amused by the complaints made by your correspondents of late about Golden Italian bees. I suppose there are a few poor English queens, and it would be interesting to hear what some of your bee-keeping readers have to say about the want of success they have had. I myself bought a skep of blacks last autumn, and, after taking 6 lb. of honey from it, I made up two frames of brood and put the bees into a frame-hive with three sheets of foundation, making five frames in all. The bees barely covered four frames, and after giving them a quart of syrup I removed the native queen and a few days after introduced a Golden Italian queen in a cage. Two days afterwards I released her and cut her wings. I then gave the bees another quart of syrup before closing them down for the winter on six frames, but no candy.

This spring they have had half a gallon of syrup, and as I wanted to increase my stock I gave fourteen frames of foundation. On Friday, July 5, the bees swarmed in my absence. On coming home about an hour after there were two large clusters on one of my fruit-trees. I put them in a skep, and had a good look round the hive for the old queen, but could not find her. While at dinner the bees left skep and went back to the parent hive. Fearing that the queen was lost, I examined the hive. I found her, and also saw ten queen-cells on the combs. I then placed ten frames with bees and the ten queen-cells on another stand, cutting out the queen-cells and placing them in pipe-cover cages. I then set to work to make some nucleus-hives for mating the queens in.

I now have one nucleus of four frames, two of three frames each, and five two-frame ones, besides a stock on eight frames of foundation. They have hardly any stores; but in this respect they are just on a par with my fifteen stocks of blacks. In fact, several of my native stocks are decreasing in numbers instead of increasing. If the weather keeps like this, I suppose we must think of giving candy and closing down for the winter. I hope we shall get one or two fine days, as I want my queens mated.—H. C. B., Colnbrook.

RENEWING COMBS.

SOME SEASONABLE NOTES.

[6797.] If we can reasonably infer that combs are healthy, it is simply waste to destroy them. In my opinion, good, clean brood-combs are cheap at a shilling each. It is very easy to clean pollen out, if there is any in the cells; at least, I find it so. Besides, full sheets of foundation cost 4d. to 6d. each, according to thickness.

The bloom on lime-trees in this part commenced opening on St. Swithin's Day, the usual date for flowering being past; and although I have not had to feed a single stock, my bees have only gathered enough to supply present needs: and as far as numbers go, stocks seem fully as strong as in the best honey-seasons.

With me it is a positive fact that swallows take bees. They are continually swirling around just over the tops of buildings and hedgerows in the bees' line of flight. That is especially the case in the evenings, when the bees are flying homeward slowly and tired.—A. H., Wavendon, North Bucks.

PREVENTION OF SWARMING.

IMPROMPTU LECTURES.

[6798.] In the last issue of the B.B.J. there were two letters on the above subjects. Both emanated from Tenbury and from third-class experts, and seemed to have been written by the same pen, judging from their contents. May I ask Mr. T. Rouse what his own method of preventing swarming is, as he carefully precludes that from his letter? He recommends re-queening with newly-hatched queens in early spring. I think many bee-keepers would be glad of such. Could he supply them in an early spring in England, or say whether they are procurable at such a time?

Re impromptu lectures, "T. A. R., Tenbury." If "T. R., Tenbury," and "T. A. R., Tenbury," are synonymous, it would be difficult to differentiate between the practical man and the talking man.—A. W. SALMON, B.B.K.A. Expert, "Cashfield," Chingford.

PRICE OF HONEY.

[6799.] Even the most unbusinesslike bee-keeper should be able to obtain a proper price for his honey this season. The yield in Cornwall is not one-third of what it should be. Stocks which should have filled four or five boxes of shallow-frames will probably not fill much more than one and a half. The season here has now improved somewhat, but the supply will be very short, and dealers are eagerly looking for sources of supply, as indicated by advertisements in B.B.J. and private inquiries. Honey may reach 63s. a cwt. for extracted.—W. J. FARMER, Redruth, July 22.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Cross-examination (page 251). — This evidently means across the sea, and is not a matter of temper. It must be a little difficult for the ordinary reader, who does not get copies of the *American B.J.* and the B.B.J., to follow the points of a controversy conducted alternately in the respective journals. With regard to the *A.B.J.*, "D. M. M.'s" points seem well taken, and his contention clearly proved, that honey must at times go directly into the supers. It is indeed one of the secrets of management for sections of light-coloured honey that there shall be no spare room in the brood-nest.

Starving Bees (page 253).—It *must* be a bad season if we have Mr. Quayle complaining! I had rather thought that there was something the matter with the weather myself! But cheer up, brother Q.! We are, at least, as badly off in this part of Wharfedale as it is possible to be. Bees are almost entirely without stores, and we have absolutely no prospect of any forage whatever until the heather blooms, and that will probably be two or three weeks later than usual. We have no white-clover yield in this locality. So I add my warning to feed, feed, feed! Like "J. M. E.," I find better results from substantial, but intermittent, feeding than from constant messing with half-pint bottles. But, however given, the motto must be "Feed!"

Hunger Swarms (page 254). — I have just had my first of these. With the exception of half a dozen youngsters, every able-bodied bee of a fair nucleus deserted hive, and combs, and brood, and all! Well, that was about all there was to desert. I was just about to leave home, but stayed for a momentary glance around the apiary. Fortunately I discovered the small swarm on a stout tree-trunk. Minutes were precious, and smoker was not to hand. Carefully gathering, and returning to the hive, several small handfuls, I was enabled to find the queen. Her I escorted to the hive, leaving the rest of her family to follow at their leisure. A piece of excluder for a doorway, and the job was done. Oh, yes! I gave them something for their trouble!

Cheap Nucleus-hives (page 255).—Very few of these seem to have provision for feeding the nucleus. It is essential that a nucleus should never be allowed to go short. Oh, yes, I know! But do as I say, not as I do! A good nucleus-box with a proper roof will cost almost as much as a hive. What could be better for standard-frame nuclei than a full-sized hive? Two nuclei may be put in one hive with entrances at opposite corners. They will keep warmer and do better, and may be united at a moment's notice. It is better to stop the entrances of such newly-made nuclei with grass than with zinc. The former is quite safe, and is automatic in case of neglect, and does not excite the bees.

Prevention of Swarming (page 255).—Some of these plans are open to criticism. If no queen-cells be present (line 50), a nucleus made up as detailed,—of two brood-combs, but without queen or queen-cells—would be of no value. Also, it would hardly deter the parent hive from swarming. If no cells be present, it is a

little difficult to see how the intention to swarm soon is diagnosed. If cells should be present, the stock not having swarmed, the queen-cells used for the nucleus (line 48) would very likely be incomplete, and be completed badly by the nucleus. The plan of giving foundation in the brood-nest after supers are on would tend to hinder the all-important work in them. But perhaps a stock which possessed several brood-combs free from brood would not be working much in the super.

Use of Excluder (page 256).—The advice to discard excluder on all occasions is not, I think, safe. Perhaps Mr. Browning only uses worker-comb for extracting frames. Where drone-comb is given in the supers, it is almost certain that the bees will prepare an area for the queen unless adequate provision has been made below the supers. I believe in a small patch of drone-comb in the brood-nest itself. I place this patch, in a marked comb, within reach, but removed from the actual brood-nest. I believe that in spring it acts as an incentive to work, also that the bees work the better for the actual presence of a few men about the house.

"*Balling*" *Queens* (page 263).—The "balling" of this second queen does not seem, at first sight, to have any relation to her subsequent death. This appears to be a case of natural supersedure. But it would be interesting to note whether *young* or *old* queens are the more readily "balled." It might be that the bees, already conscious of her failing powers, were mentally desirous to supersede her, or even anxious to preserve her for the purpose, and therefore "balled" her. I have noticed that old workers are more bald than young bees, but perhaps that is not really relevant.

Criticism and Comb Renewal (page 265).—I should not call Mr. Avery's criticism of Mr. Farmer's procedure "unbrotherly." Brothers are often the most outspoken critics. But criticism, however direct, is not necessarily unfriendly. I should be very sorry to offend any brother bee-keeper by my own somewhat free comments. After all, we each have a right to an opinion. In this matter of comb renewal, I think it is an evidence of mismanagement or a bad characteristic in a particular strain of bees if many good worker-combs be spoiled by drone alterations. Will those who complain so bitterly of this try the suggested cure of allowing a small patch of drone-comb near the corners of the hive? They may be able to save some of those *invaluable combs!* "Pollen clog" may be abated by Mr. W. Herrod's suggestion to use a "Brice" swarm-catcher. Some of the bees scrape their boots at the front door!

Queries and Replies.

[3557.] *A Case of Black Brood.*—I am forwarding herewith three pieces of brood-comb taken from one of my hives. I have kept bees for some seven or eight years now, and have not hitherto had any trouble from disease, but am very much afraid that I am now making acquaintance with foul brood. Will you therefore kindly let me know your opinion of the enclosed sample? I have fourteen colonies at present, but the trouble is so far restricted to not more than two hives—the one from which the pieces of comb were cut, and one other in which there are a few suspicious cells. Although I am afraid it is foul brood, there seems to me to be one or two of the characteristics of that disease absent. The cappings are not perforated, neither does there seem to be any "ropiness" of the morbid matter in the cells. Both colonies are otherwise in good, strong condition, and are working in the supers—that is, so far as this wretched weather will allow. In the worse hive of the two the trouble is confined to three frames. If the trouble is foul brood, would it be wise to give the crates of shallow-frames to another hive? Awaiting the favour of your reply in an early issue of the B.B.J., I enclose name and address for reference, and sign myself—ANON, Sussex.

REPLY.—The symptoms shown in comb and the condition of dead larvæ therein point distinctly to those of black brood as described by bacteriologists who have investigated that form of bee-trouble.

[3558.] *Transferring Bees to Frame-hive.*—I would be glad to have your advice as to how to transfer a stock of bees now in a straw skep into a frame-hive. The stock in question is a last year's second swarm, or cast, and was with difficulty pulled through the winter, being reduced to only a very few bees, which were scarcely discernible in the few pieces of comb at one side of the skep. But, notwithstanding the bad summer, they have now made such progress that the skep is completely filled with comb and bees, and I wish, if possible, to get them into a frame-hive. I have seen several methods mentioned, but what I think of doing is as follows:—Turn skep upside down, placing a board on top, in which is cut a large round or square hole. On top of this place a body-box with, say, five frames of foundation. Have the skep so placed that smoke could be applied from below, with which and rapping the sides I should expect the bees to move up to the frames placed above. After they had moved up I would then cut out five combs and tie them on to another five frames, for which there would be room in the hive by drawing the five with foundation closer together. I should be glad to hear if you think this plan workable, or otherwise suggest something better, also if the present would be a good time to have the operation carried through. Name sent for reference.—B. F., Dundee, July 25.

REPLY.—Your proposed plan will not work at all well for several reasons, and our advice is, don't try it. If you must, cut out the combs and tie the latter into frames. Your best plan is the orthodox one of driving the bees and queen into an empty skep in the usual way, and leaving them in the skep on the old stand while the combs of brood are being carefully removed from the skep and tied into the frames of new hive, filling the latter with full sheets of foundation. This done, throw the driven bees on to a good-sized board placed in front of the frame-hive, and let them run in. If you have had no previous experience of driving and transferring bees, you should consult a "Guide Book" before operating.

[3559.] *An Entomological Query.*—I enclose you a queen-wasp, and it will be seen that the body is dark in colour. My opinion is that the dark colour is caused by the insect never having been mated. I would much like to know if you think I am correct in this view?—I. A. B., Bridge of Allan, N.B., July 20.

REPLY. — Our entomological contributor, Mr. F. W. L. Sladen, to whom we referred the wasp, writes:—"I do not think that a discoloration of the body of a queen-wasp is a sign that she has never been mated, because I have several times taken nests in which the queen had a discoloured body. However, discoloration may be the result of long exposure to strong light, as is the fading of the bright colours of queen bumble-bees, and it is possible that the faded and much-worn specimens which one sometimes sees on flowers, &c., at this time of the year are those that failed to get fertilised and so to establish a colony."

[3550.] *Dead Bees in Hive-drawer.*—The enclosed is a sample of nearly ½ lb. of dead bees which I removed from a drawer under one of my hives to-day. The drawer was cleaned out about a week ago, so that I assume all these have died within a week. The quantity seems very large for so short a time, so I thought I should like to know if the "Isle of Wight disease" could have got into the hive. I might say the colony is a strong one—in fact, the only one of my four stocks that is at work in the supers this year. — H. EMMONS, Southampton, July 24.

REPLY. — Without knowing what kind of "drawer" there may be under the hive, we should judge that it has become the receptacle of robber-bees killed off by the legitimate occupants of the hive. We conclude thus because the dead bees are of mixed nationalities, and have all the appearance of robbers. There is nothing in the appearance of the dead bees to indicate disease of any kind.

[3561.] *Queen Cast Out of Hive.*—I enclose a dead queen-bee, found last night on the ground outside one of my hives. It was not quite dead when picked up, for I could just discern a faint movement of the body. I shall be glad to know whether it is an old or a young queen? The hive from which it was cast out sent out a strong swarm early in June, 1906. This year I have tried to prevent swarming by giving plenty of room, and the hive now has a rack of sections and a rack of shallow-frames on it. On examining the frames I found the bees had drawn out all the shallow-combs and partly filled them with honey. I did not disturb them further, as the hive was simply boiling over with bees, and the way they had taken to both sections and shallow-frames caused me to think they would not swarm. Thanking you in anticipation.—F. E. H., Woodhouse, Sheffield, July 24.

REPLY.—The dead insect sent was a full-sized adult queen-bee. There was no appearance of her being aged or worn-out. It is of course possible that the bees have—for reasons of their own—deposed the mother-bee and are raising a successor; but this can only be definitely settled by examining the combs for queen-cells, for a hatched-out queen if one is present, or for signs of queen-cells on the combs from which a young queen may be expected to hatch out shortly.

[3562.] *Starting Bee-keeping. — A Beginner's Queries.* — Having started bee-keeping, not as a pastime but for profit if possible, I began by purchasing a copy of the "Guide Book" and taking the BEE JOURNAL every week. I therefore hope it may not be out of place to ask a few questions. I purchased two colonies of bees on March 1, and on examination find some of the combs are very old. The frames are fitted with "W.B.C." metal ends, but they have not been pushed close up, some of the metal ends being ½ in. apart at the shoulders. On the evening of July 16 I examined the worse hive, and found that the bees had made their headquarters at the rear of hive, the frames of which run parallel with the entrance. When examining them on July 16 I found the frame next to the dummy at back had double combs built almost all over the frame. I removed this frame, and in shaking the bees from it some honey ran on to the floor-board. I therefore ask: 1. Will this do any harm, or will the bees clean it up? I may say there are ten frames in the hive, but only six are occupied. I have put no sections on this one yet, but as the other stock is in better condition I gave them a rack of sections. I found brood on both sides of the comb mentioned as removed on July 16, also some new gathered honey, as we had three fine warm days at that time. Knowing that the double comb in the wide-spaced frame should be got rid of, I cut one of the combs off, but left the other one, as there was a good quantity of brood in it, but this comb, too, was bulged out, particularly at the corners, where the cells were 1¼ in. deep. 2. Was all this trouble caused by the frames being too wide? 3. I had the frame out of the hive for about an hour before putting it back, so I ask: Will the brood have run a risk of becoming chilled? 4. Is evening the best time for working amongst the bees? 5. Having read "Guide Book" all through, I can understand about "nuclei" and "artificial swarming," but what is meant by "driven bees"? 6. With regard to rearing queens and drones in different hives, as treated in the "Guide Book," do the virgins become fertilised with drones on the wing, or do you introduce comb containing drones into the hive in which queens are reared? Apologising for the number of questions asked, I send name for reference, and sign—ALPHA, Culross, July 19.

REPLY.—1. The running honey would be cleared up by the bees, and do no harm whatever. 2. The frames were not "too wide," as stated; the trouble was evidently caused by their not being properly placed in the hive. As a matter of fact, the "W.B.C." ends would have regulated the spacing correctly had the smallest amount of intelligence been exercised when inserting the frames. 3. The damage to unsealed larvæ through exposure for an hour or more would depend entirely on the temperature of the place in which the combs were kept at the time. Very young larvæ would soon become chilled in a cold wind, even if the temperature reached as high as 70 deg. Fahr. 4. Some operations are best performed after bees have ceased flying for the day, while others should be done when they are busy at mid-day; all depends on the nature of the work to be done. 5 and 6. The "Guide" gives full and precise details of all work connected with queen-rearing and drone-rearing and driven bees. With regard to the latter, there are illustrations (from life) showing how to drive bees and how to utilise them.

[3563.] *Transferring Bees.*—Can you tell me why my bees have not worked out the comb-foundation I gave them? I tried to get the bees to transfer themselves, but they refused to do so. I have four old hives (home-made); they are about twenty-five years old, and as frames are from 2 in. to 3 in. wide the combs are built in all ways but the right one. I have had three or four racks of sections from them each season for the last year or two, and on June 17 last I put one of the old hives on the top—a new "W.B.C."—giving eight sheets of wired foundation in frames, as advised in the "Guide Book." I did the same with another on June 23, hoping the bees would transfer themselves below; but when examined three weeks later I found they had not drawn out the foundation at all. I have made another examination

to-day, and the frames are just in the same condition as when put in. As there are plenty of bees in the hives, I ask if you think it is owing to the cold weather? I got the foundation from one of your advertisers. A reply through B.B.J. will oblige.—W. X., Altofts.

Later.—I examined some of my other hives to-day that were supered a fortnight ago, and the bees have nearly filled a rack of sections each during the last week, though we have had only about seven bee-days since Easter.

REPLY.—The natural inference is that the untoward weather has put a check on breeding, and in consequence the queen, not being cramped for egg-room, has made no effort to transfer the brood-nest to the new hive below. Had the summer been a normal one the bees would no doubt have taken possession of the lower hive before now.

[3564.] *Subduing Bees.*—On one of the magnificent bee-days which came upon us almost with surprise, I was very anxious to induce one of my stocks to work in the super. Being most unwilling to stop their busy gathering by meddling with them at all through the day, I commenced about 11 p.m. on a fine, warm night to subdue my bees with smoke. But for the first time I found them very intractable. I smoked them, gave them time twice, and thumped on the sides and roof; but they kept running about "like mad," very wild, and determined to remain fasting and defend their treasures. I want to ask you:—1. Is it always harder, or is it impossible, to subdue bees at night, or what did I do wrong? (I gave three or four good puffs at entrance, waited a minute or two, smoked at top, covered up, and thumped and smoked again, left them twice and smoked again, but they were always ready for me, boiling up when I lifted the quilts.) 2. Would bruising all the sealed honey have compelled them to store it in the upper story? This was what I was anxious to try, but didn't.—JOHN W. MOIR, Edinburgh, July 23.

REPLY.—1. From personal experiences of more years ago than we care to recall, it is quite certain that the midnight hour—or anywhere near it—is the very worst time to attempt manipulation with a strong stock of bees. Indeed, as a rule it is always advisable to choose a time when the bees may *see where they are* if subduing them is the object aimed at, for in darkness both the operator and his subjects are at a disadvantage, and the bees resent intrusion at such a time most vigorously. 2. To have started bruising—or uncapping—the sealed stores would, if possible, have added to the tumult. The best way of inducing bees to enter supers is to "bait" the latter with a section or two containing fresh gathered honey and wrap the super very warmly, while carefully stopping the admission of cold air at the junction of super and hive.

Echoes from the Hives.

Glenmay, Isle of Man, July 15.—After long waiting, bee-weather seems at last to have set in. The temperature here in the shade at 10.30 this morning was 70 deg. Fahr., and during last night the temperature was high. Consequently bees were very busy this morning, although the sky was overcast, gathering the honey secreted during the previous warm night. Clover is abundant in the pasture fields, and with a continuance of this weather we may still hope for some amount of surplus honey. I am wondering if any of your readers have ever tried the effect of a gunshot during the time a swarm is in the air and unwilling to settle. I have a decided belief in its efficacy. This morning a large swarm from one of my hives, headed by a young queen, hovered a long time in the air, and at last seemed on the point of settling on the top of a tree 50 ft. from the roadway. I fired a gun just underneath them, and immediately they began to descend and in a few minutes had settled on a shrub within 4 ft. from the ground. I have had similar experiences before, and am inclined to think that the shock has a similar effect on the bees as a thunder-clap might be expected to have, and drives all thought of wandering from their minds and makes them seek a low shelter immediately.—LANCELOT QUAYLE.

Rose Farm Apiary, Danesmoor, Chesterfield, July 15.—After nine weeks of wet and cold we have struck a honey-flow here at last. Sunday being very warm but dull (the sun never shining for a day), the bees came out in full force, and worked hard for thirteen hours. They also look like doing the same to-day. We had an hour or two of sunshine this morning, and we had two fine days last week, but the bee-days did not last, and I busied myself packing supers away for winter, but it looks like having to fetch them out again now. There is hardly any clover cut yet, and the pastures are showing a good crop of blossom, so the prospect is fairly bright now.—TOM SLEIGHT.

Bee Shows to Come.

August 5 (Bank Holiday).—Annual Honey Show of North Norfolk B.K.A., in connection with the Melton Constable Horticultural Association. **Entries closed.**

August 8, at Abingdon Park, Northampton.—Honey Show of the Northants B.K.A. Two Special Classes, including one for single 1 lb. Jar Honey. Entry free. Prizes, 20s., 10s., 7s. 6d., and 2s. 6d. Schedules from R. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 3.**

August 8, at Madresfield, Malvern (Madresfield Agricultural and Horticultural Society).—Annual Show of the Worcestershire B.K.A. Open Class. Schedules from Geo. Richings, 2, Shrubbery-terrace, Worcester. **Entries close August 3.**

August 8 to 10, at Barnsley.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. **Entries closed.**

August 14, at Wye (Kent Honey Show).—Five Classes open to the United Kingdom. Trophy Cup value £3 3s. (entry 1s.), 1 lb. Section, 1 lb. Light Run, 1 lb. Dark Run, 20s., 10s., and 5s. in each case (entry free); Beginner's outfit, retail price not to exceed 30s. (entry free). Open to Kent only (fourteen Classes): President's Challenge Cup, value £6 6s., for 6 1 lb. Sections and 6 1 lb. Jars Extracted Honey. Money prizes for 6 Sections, 6 Jars Light, 6 Jars Medium, 6 Jars Dark, 2 Shallow or Standard Frames, 3 Sections and 3 Jars, Beeswax, Mead, Candy, Cake Sweetened with Honey, Display of Cut Flowers, &c., &c.; two Special Classes for Cottagers. Schedules of J. Tippen, Secretary, Wye, Kent. **Entries close August 7.**

August 16, in Public School, Portwilliam, Wigtownshire.—Honey Show in connection with the Horticultural Society. Classes for Sections and Extracted Honey, open to amateurs and cottagers. Challenge Class (open to all) for 3 1 lb. Jars Extracted Honey, prizes 20s., 12s., 8s., and 4s. Schedules from Secretary, Horticultural Society, Portwilliam, N.B.

August 21, at Lancaster.—Show of Honey, &c., in connection with the Lancaster Agricultural Society's Annual Show. Open Classes for Extracted and Comb Honey, also Beeswax and Produce. Challenge Cup value £5 5s., also six silver and bronze Medals, and other Specials. Schedules from Thos. Armitstead and Son, Auctioneers, Lancaster. **Entries close August 7.**

August 21, at Radstock.—Annual Show of the Somersetshire B.K.A., in connection with the Radstock Horticultural Association. Seven open and two free classes; good prizes. Schedules from Herbert J. Moore (Show Secretary), Foxcote, Radstock. **Entries close August 14.**

August 21 and 22, at Shrewsbury.—Shropshire B.K.A. Annual Show, in connection with the Shropshire Horticultural Societies' Great Floral Fête, in the Quarry, Shrewsbury. Nine Open classes for Honey and Wax. Free entry for single 1 lb. jar and single 1 lb. section. Schedules from S. Cartwright, Hon. Sec., Shawbury, Shrewsbury. **Entries close August 9.**

August 28, at Chester (Cheshire Agricultural Society's Show).—Bee and Honey Department, under management of the C.B.K.A. Open classes for Hives, Sections, and Extracted Honey. Increased prizes. Members' classes, District class. Special prizes offered by Chester Tradesmen's Association. Schedules from T. A. Beckett, St. Werburgh's-chambers, Chester. **Entries close August 7.** Post entries at double fees to **August 14.**

August 28 and 29, at Rugby (Warwickshire B.K.A.).—Show of Honey and Bee Appliances, in connection with the Annual Show of the Warwickshire Agricultural Society Schedules from Jas. N. Bower, Hon. Sec. Warwicks. B.K.A., Knowle.

August 28 and 29, at Osmaston Park, Derby.—Annual Show of the Derbyshire B.K.A. Increased prizes. Reduced entry fees. Schedules now ready. Apply, R. H. Coltman, Secretary, 49, Station-street, Burton-on-Trent.

September 5, 6, and 7, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-five Classes (nine open to all). Increased prizes and medals. Schedules from F. B. White, Secretary, Marden House, Redhill, Surrey. **Entries close August 22.**

September 7, at Bramhall, Stockport.—In the grounds of the Bramhall Hall, by permission of C. H. Nevill, Esq., Honey Show in connection with the District Horticultural Society. Low entrance fees. Three Open Classes, with liberal prizes. Schedules from J. Sibson, Bramhall, Stockport. **Entries close August 31.**

September 12, at Castle Douglas (South of Scotland B.K.A.).—Exhibition of Honey and Wax in connection with the Dairy Show at Castle Douglas. Five Open Classes; Three Bottles Run (20s., 12s., and 6s.); Three Sections (15s., 10s., and 5s.); One Bottle (4s., 2s., 1s.); One Section (4s., 2s., and 1s.); Wax (5s., 3s., and 2s.). Schedules from Q. Aird, Hardgate School House, Dalbeattie, N.B. **Entries close August 31.**

September 25, at Altrincham.—Honey Show, in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. Classes for Trophy of Honey, for Best Hive, Observatory Hive, with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester: Amateur-Built Hive, two Shallow Bars, Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low Entrance Fees. Schedules from Mr. J. Herbert Hall, 2, Dunham-road, Altrincham. **Entries close September 7.**

October 17 to 26, at Waverley Market, Edinburgh.—Honey show in connection with the Eleventh Annual Edinburgh and Midlothian Industrial Exhibition. All open classes. Beautifully illustrated prospectus, price 2d., from A. Hutchinson, 15, Leith-street, Edinburgh. **Entries close October 3.** (See advt. page ii.)

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

J. W. (N.W. Durham).—*Bees.*—Many of the bees sent were alive when received, but were soaked with wet and apparently dying. Or it may be they had regurgitated honey in post if, as we suspect, they were "robber-bees" from other hives. The appearance of the dead bees bore out this assumption, as they were perfectly black and hairless.

J. B. (Polyphant).—*Bees Found Dead.*—The case as described is clearly one of death from starvation. The bits of crushed comb sent are of no use in diagnosing foul brood.

W. R. Parry (Groeslon).—*Defaulting Advertisers.*—If the hives, regarding non-delivery of which you justly complain, are not sent by the time this appears in print, write again and say you will inform us of your complaint unless goods are forwarded at once. We cannot undertake personal correspondence for you.

C. V. Collings (Bromley, Kent).—*Bees Building in Observatory-hive.*—It is quite possible for bees to build straight combs in an observatory-hive without being supplied with foundation at all, as the space between the glass sides would keep the natural comb so built quite straight.

W. B. (Sheffield).—*Surplus Queens.*—The upper part of box contained two drones and eight worker-bees. In lower half were thirteen queens, evidently killed after the stock had swarmed. The bees and queens are dark in colour, but have no other peculiarity.

F. E. Green (Newdigate).—*Clovers as Bee-forage.*—Of the three varieties of clover named we place "sainfoin" first, "alsike" second, and "melilot" third for value as honey-plants. You have not named the queen of bee-flowers, white Dutch clover, presumably because of its being admittedly standing above the others, but an admixture of sainfoin with the last-named adds to the quality, in the opinion of nearly all judges.

E. W. R. (Banstead, Surrey).—*Varieties of Heather.*—The sprig of heath sent is the *Calluna vulgaris* (or common ling), and the best variety for honey.

J. H. F. (Dunston, Lincs.).—*A Beginner's Fears.*—The "specimen" sent is simply a dead larva, such as are frequently cast out of hives when honey is scarce at this season.

J. J. H. (Durham).—*Liability of Bee-keepers under Compensation Act.*—Without venturing a legal opinion, we should say that a man who engages to take bees to the moors and bring them back again for a given sum stands in much the same position as a cabman hired to take you a certain distance in his cab. He is your servant for the time, but you are not liable for injury done to him while so engaged.

Suspected Combs.

J. T. A. (Sussex).—See reply to "Anon.," page 306.

T. Hoad (Bexhill-on-Sea).—No foul brood in comb.

W. H. U. (Haydon Bridge).—Bad case of foul brood. Contents of hive should be promptly burnt.

M. G. L. (Wingham, Kent).—No use trying to save the bees, as they are badly diseased. Burn the lot.

W. Paul (Lanarkshire).—Comb is affected with foul brood, but not of old standing.

B. B. (Birmingham).—See reply to "Anon," Sussex, page 306.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

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15TH YEAR.—Healthy Driven Bees, with young fertile Queen, 5s.; cases free; guarantee safe delivery.—SOLE, Expert, Poplar-grove, New Malden, Surrey.

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BEES FOR SALE.—3 strong Stocks, in "W. B. C." Hives, fitted with supers partly drawn, Hives in perfect order.—MRS. HAWTHORN, Leyburn, Yorkshire. a 99

HEALTHY DRIVEN BEES, good lots, young Queens, delivery middle August, 5s. per lot, boxes free.—H. KEMP, Frome, Somerset. a 96

WANTED, EXTRACTED HONEY or Sections. Exchange Stocks, on Frames, or Nucleus, 3-Frame, 10s. 6d., 1907 Queen.—W. WOODS, Normandy, Guildford. a 97

DRIVEN BEES WANTED, early, 4 lb. lots, 1s. 3d. lb. — McCURRACH, Dry Bridge, Buckie, Scotland. b 2

WANTED, HIVE OF ITALIAN BEES. State price.—Apply, GAVIN SHEARER, 52, John-street, Larkhall. a 91

2 FERTILE QUEENS to spare, good strain, 3s. each.—STEVENS, Churchill, Oxfordshire. a 90

HEALTHY DRIVEN BEES, ready middle August, 3s. 6d. per lot, or 1s. 3d. per lb.; not less than 4 lb. lots; orders cash, delivered rotation; boxes returnable.—H. C. SMITH, The Apiary, Woodmancote, near Cirencester. a 92

SAMPLES OF GUARANTEED PURE ENGLISH HONEY WANTED, old or new, in tins.—WYATT, Bishopswood, Chard, Somerset. a 88

NOTICE.—D. TAYLOR will be from home from Aug. 7 till end of month; cannot accept orders for Virgins after Aug. 5, but hopes to find some fertiles in Nuclei on his return.—Ilminster.

WANTED, LIGHT GRANULATED HONEY, in jars, also good New Sections.—BAYNES, 51, Bridge-street, Cambridge. b 1

HEALTHY DRIVEN BEES, with Queen, 5s. per lot; boxes returnable; spare Queens, 2s. 6d. each; tenth season.—A. R. MORETON, Bee Expert, Hallow, Worcester. a 94

BEAUTIFUL Young Fertile Golden Queens, 4s. each.—O. KNIGHT, Epney, Stonehouse, Glos. a 83

HEALTHY DRIVEN BEES WANTED, in 4, 6, or 8-lb. lots, first and second week in August; will give 1s. per lb., provide travelling boxes, and pay carriage. Cash by return post after receipt of bees.—J. BALMBRA, East Parade, Alnwick. a 76

THREE-FRAME NUCLEI, 10s.; Healthy Stocks on Wired Combs, from 20s. each. Good Sections Wanted.—R. CARTER, Chartridge, Chesham, Bucks. a 87

WANTED, Two Hives of Bees, strong, good condition, full Winter Stores.—Send particulars, BUTCHER, Timberland, Lincoln. a 75

THREE-FRAME NUCLEI, 1907 Laying Queen, 10s. cash; Strong Stocks, 20s. each.—HEMMING BROS., Standlake, Witney. a 73

Special Prepaid Advertisements.—*Continued.*

QUEENS, CHOICE 1907, bred from my Non-Swarming Stocks, 3s. 6d. each.—TAYLOR, Boldmere, Wylde Green, near Birmingham. a 66

WANTED, for cash, 1 cwt. Best Light Clover English Run Honey, free on rail, empty returnable. Send 2 oz. sample.—A. S. BURN, Market Lavington, Wilts. a 62

FOR SALE, 500 Young Fertile Pure Carniolan Queens, 4s. each; also 500 Young Fertile Caucasian Queens, 7s. each; cash with order.—HAUNSCHILD, Weissbach-by-Pulsnitz, Saxony.

31ST YEAR.—Healthy Driven Bees, 5s. 6d., cases free.—ALSFORD, "Expert," Haydon, Sherborne. a 52

SECTIONS WANTED for cash.—Apply T. SMITH AND CO., 17, Cambridge-street, Hyde Park. a 57

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

WANTED, for Scientific purposes, DEAD QUEEN BEES, and WORKER HORNETS. Will brother Bee-keepers oblige?—HERROD, Apiary, Luton.

DRIVEN BEES, guaranteed healthy. Orders now booked; delivery in rotation; 1s. 3d. per lb., f.o.r. Boxes to be returned. Cash with order. —T. D. SINFIELD, 26, Upper George-street, Luton. a 38

SECTION GLAZING.—Best quality neat patterns in lace paper, made especially to my order (not common thin box edging). White, 1in. wide, 100 6d., 500 2s. 3d.; Pink, Green, Blue, 100 7d., 500 2s. 6d.; Lace Bands, White, 2⅞, 3, and 3⅛ in. wide, 100 1s. 3d., 500 4s. 6d.; Pink and Pale-blue, 100 1s. 6d., 500 6s. Cash with order; post free.—W. WOODLEY, Beedon, Newbury.

HEALTHY DRIVEN BEES, commencing August 1, 3s. 6d. per lot, with Queens; boxes to be returned; orders rotation. Cash with order. T. PULLEN, Ramsbury, Hungerford. a 34

WANTED, New Sections, first quality; prompt cash.—W. CHILTON, Southdown Apiaries, Polegate, Sussex. a 33

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester.

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw-cap jars, 77s. gross, 21s. ¼ gross; ½ lb. ditto, 45s. gross, 13s. ¼ gross; Honey in bulk, 48s. cwt.; samples, carriage paid, 8d. Further prices and particulars on application.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 74

HONEY JARS.—We have contracted largely for special well-finished machine-made screw-top jars, each washed and wrapped in paper, complete, with caps and cork wads, 15s. 6d. gross, 43s. 3 gross; ½ lb., 12s. 6d. gross, 37s. 3 gross.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 75

BRICE'S 1907 HYBRID QUEENS, tested, 5s. 6d.; Virgins, 3s.; safe arrival guaranteed.—HENRY BRICE, Brigstock-road, Thornton Heath, a 13

COMFORTABLE APARTMENTS for Brother Bee keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

GOLDEN-ALL-OVER QUEENS, 6s. 6d. to £1. —E. L PRATT, Swarthmore, Pa., U.S.A. Handsome 24pp. brochure free.

Editorial, Notices, &c.

THE BRITISH BEE-KEEPER'S GUIDE BOOK.

NINETEENTH EDITION.

After considerable but unavoidable delay, as irritating to ourselves as to those who have waited so patiently for copies of the above work on order, we are glad to say the "Guide Book" is now ready, and being sent out as rapidly as possible. It rarely falls to the lot of a handbook classed as purely technical to have over two thousand copies ordered before the work is ready for issue; yet such is the case with the nineteenth edition of the above-named work. We are also justified in claiming that it has created for itself a "record." First, as the only book on bees honoured by being translated into seven different languages; and second, the 19,000 copies of which the present edition consists, which is far beyond that of any similar work of its kind on bees and bee-keeping ever published.

For the rest, we may say everything about the work is new and up to date, illustrations required from former editions re-engraved, numerous new ones introduced, and the whole work revised, enlarged, and re-written. To quote from the preface to the nineteenth edition: "Every illustration in the work will justify its appearance therein as being instructive, useful, and interesting, everything in the shape of 'padding' being carefully avoided. So many of the illustrations, as also descriptions, have been copied from the "Guide Book" by some writers, who have abstained from mentioning the source from whence they were derived, that I have considered it necessary to rewrite a large portion of the work and have new illustrations made."

REVIEWS OF FOREIGN BEE JOURNALS.

By "Nemo."

Honey in Swiss Hotels.—It is well known that very few hotels in Switzerland serve pure honey, so that it is pleasant to learn through the *Schweitzerische Bienenzeitung* that last summer, at the Rigi-Kulm Hotel, conducted by Dr. F. Schrieber, 2,400 francs' worth of guaranteed pure Swiss honey was consumed. The other hotels were satisfied with the substitute called "table honey," consisting principally of glucose. Tourists who wish pure honey should make a note of this.

Handling Bees.—In the *Oesterreich-Ungarische Bienenzeitung* the following good advice respecting the handling of bees is given:—In manipulating, never stand in front of hive to interfere with the flight of the bees. Work quietly, and avoid all haste and nervous movements. Do not breathe on the bees, as the breath and perspiration of man and animals are repugnant to them. Never manipulate during rain or in stormy weather. Select the time when most of the field-workers are absent from home, as old bees are more irritable than young ones. Use smoke moderately: too much does harm. Always wear a veil, but never put on gloves. Wash your hands before every operation. If a bee stings, take care not to drop what you are holding; remove the sting by sliding a knife across the skin. Avoid crushing a bee, for the odour produced very much excites the colony. If you have to deal with vicious colonies, give them a dose of food in the form of syrup before and after the operation. If, notwithstanding, a colony remain unmanageable, replace the queen.

Caucasian Bees.—In the Russian journal *Ptchelovodniya Shisn*, conducted by M. A. Dernoff, a regular contributor—M. K. A. Gourbatchev, of Tiflis—alludes to Mr. Benton's visit in search of Caucasian bees. He says that this American was his guest in the Caucasus. His object in going was to study the Caucasian bee, and he also visited the principal agricultural regions east and west, as well as the districts on the borders of Persia. Although travelling in the Caucasus is difficult and sometimes dangerous, Mr. Benton, with the courage and energy characteristic of Americans, and with the perseverance of the Yankee, visited many districts, purchasing Caucasian queens, and sending them from time to time to Switzerland to the apiaries of friends. From there they are to be sent to America in the coming spring. Mr. Benton is enthusiastic about this race of bees, and predicts for them a brilliant future. The good temper of this race is well known, and American bee-keepers have heard about them; but Mr. Benton was very much astonished at the quietness of the Abhas race. He had an opportunity of seeing them at the silk-producing station in Tiflis, and, according to M. Solovieff, he could not succeed in angering the bees after trying various ways of doing so. Even Caucasian bee-keepers, used to quiet bees, are astonished at the mildness of this race. M. Gourbatchev also says Caucasian bees have longer tongues than those of other parts of Europe, and that Professor G. A. Kozhevnikov is now studying this question, but has not yet come to any conclusion on the matter. At any rate, their tongues are as long as those of what have been called "red-clover bees," so much sought after by Americans.

Water for Bees.—We read in *L'Union Apicole* that M. Gendas has been experimenting as to the requirements by bees of water, and has shown that it is very considerable. Twelve colonies consumed 122 kilos (269 lb.) in two months. If the water is over 45 deg. (113 deg. Fahrenheit) it is too hot; if less than 10 deg. (50 deg. F.) it is too cold. The most suitable temperature seems to be between 25 deg. and 35 deg. (77 deg. and 95 deg. F.). At this temperature a bee takes sixty to eighty seconds to fill her sac. The conclusions to be derived from these experiments is that bees should always be provided with water, more especially in April and May.

Prevention of Stings.—M. Bourgeois, of Tunis, gives in *L'Abeille de l'Aisne*, the following recipe for the prevention of stings and as a remedy if stung: Menthol, 30 grammes; alcohol, 40 gr.; glycerine, 100 gr. Well mix these ingredients. With this applied to hands and face bees or mosquitos will seldom sting. In the event of being stung this solution gives immediate relief.

Empty Combs.—M. A. Crousse, in *Le Rucher Belge*, says that all experienced bee-keepers recognise the value of empty combs, and when completely built-out combs are given to a colony during a honey-flow, such a colony will produce three or four times more honey than it would if it had at the same time to build combs. A stock of empty combs is very helpful to the bee-keeper, and is one of the advantages of a movable-comb hive. Such combs should receive the best attention, and should be stored in winter in a cupboard or case where they can be protected from mice and wax-moth. Before closing them up sulphur should be burned in the case or cupboard so as to fumigate the combs and destroy all traces of wax-moth. A dry place for storing them should be chosen.

Nuptial Flight of Queens.—Mr. Pratt has stated that he had on several occasions observed the mating of queen-bees, and has described what he has seen, the article appearing in several bee-papers. It appeared in B.B.J. on March 29, 1906, page 123. It was translated into French, and, alluding to the article in *Bulletin de la Société Romande d'Apiculture*, Professor J. Keller says:—"Mr. Pratt has seen strange things, and how true. He has seen—at any rate, I hope so—*seen* with his own eyes flocks of drones furiously pursuing a fine young queen. He has witnessed these chases at dizzy heights, these mad rushes in the air of a marriageable queen and her court of suitors, breathless, panting, whirling round the young princess. Yes, he alone has had this high privilege, whereas we—eternal shame to us bee-keepers of the Old World—have seen nothing of this interesting and mysterious flight of the young queen. It has happened perhaps that we have seen her leave the hive and have caught sight of her returning with visible traces of her fecundation. But all the rest, *no*, we have *not seen*. They are American 'stories,' and to describe scuffles in the air is not only Homeric genius but probably, Mr. Pratt considers, an author's right."

Bee-keeping in Japan.—According to the *Praktischer Wegweiser* there exists in Tokio a school of apiculture. There are also several bee-keepers' societies in the country conducted much in the same way as they are here. The school is principally attended by young women. Each course of instruction lasts three months and ends by a practical examination. Pupils obtain their appliances and queens at half price. There are two books used for instruction, entitled "Bees" and "Evening Talks on Bee-keeping," both by Awayages. The contents are taken in most part from European books.

NOTTS BEE-KEEPERS' ASSOCIATION.

ANNUAL SHOW.

The above show was held at Southwell on July 25, in connection with that of the Southwell Horticultural Society. The weather was not conducive to comfort, for all the morning it rained heavily. The entries in the honey department were fairly well up to the usual number, but, alas! the weather generally has been such that very little surplus honey could be stored; consequently, only a very poor proportion of the exhibits were staged.

Dr. T. S. Elliot, Southwell, officiated as judge (assisted by Mr. Stoppard, Notts), the following being their awards:—

Collection of Bee-appliances.—1st, T. N. Harrison, Notts.

Trophy of Honey in any Form and of any Year.—1st, W. Ball, Eagle, Lincs; 2nd, G. Marshall, Norwell; no 3rd award.

Twelve 1-lb. Jars Light-coloured Extracted Honey.—1st, J. Willson, Shirebrook; 2nd, G. Hopkinson, Newark; 3rd, John Bee, Southwell; no 4th award; h.c., W. Lee, Southwell.

Twelve 1-lb. Jars Dark-coloured Extracted Honey.—1st, J. Willson; 2nd, J. R. Almond, Cotham; 3rd, A. H. Hill, Balderton; 4th, W. Ball; h.c., W. Lee.

Six 1-lb. Sections.—1st, G. Marshall; 2nd, W. Lee; no 3rd award.

Six 1-lb. Jars Granulated Honey.—1st, John Bee; 2nd, W. L. Betts, Mansfield-Woodhouse; 3rd, G. H. Pepper, Farnsfield; h.c., H. Merryweather, Southwell.

One Shallow-frame of Honey for Extracting.—1st, W. L. Betts; 2nd, G.

Marshall; 3rd, H. Merryweather; no 4th award.

Six 1-lb. Jars Extracted Honey (Novices' Class).—1st, E. Varty, Pleasley; 2nd, Miss Hedderley, Southwell: no 3rd award.

Honey Vinegar.—W. Ball.

Observatory-hive with Bees and Queen.—1st, E. G. Ive, Boughton: 2nd, A. H. Hill; 3rd, W. L. Betts; 4th, G. Marshall.

Beeswax.—1st, G. Marshall; 2nd, A. H. Hill; 3rd, John Bee.—GEO. HAYES, Hon. Sec.

GLAMORGAN B.K.A.

ANNUAL SHOW AT CARDIFF.

The annual show in connection with the Cardiff and County Horticultural Society was held at the "Sophia Gardens," Cardiff, on July 24 and 25 in only fair weather. Unfortunately a record was established for this Association, the number of entries being ten below that of the previous lowest. It was, however, pleasing to find such zeal among our members, for there had been barely a fortnight of good nectar-gathering weather this summer, and what honey there was had been extracted only a few days before the show. The quality of the exhibits staged was distinctly good. The welcome visit ten days before of H.M. the King no doubt assisted the weather in robbing the show of the usual huge crowds. The Secretary again had charge of the honey department. Lectures in the bee-tent were given by the Rev. H. Morgan, Penllergaer, who, with the Rev. W. H. A. Walters, Pembrokeshire, judged the exhibits, the following being their awards:—

MEMBERS' CLASSES.

Twelve 1-lb. Sections.—1st, David George, Merthyr Mawr, Bridgend.

Six 1-lb. Sections.—1st, D. George.

Three Shallow-frames of Comb-honey.—2nd, R. Morgan, Cowbridge (no 1st award).

Twelve 1-lb. Jars Light Extracted Honey.—1st, J. Boyes, Cardiff: 2nd, R. Morgan; 3rd, W. T. Gunter, Cowbridge.

Six 1-lb. Jars Light Extracted Honey.—1st, J. Boyes; 2nd, R. Morgan; 3rd, W. T. Gunter.

Twelve 1-lb. Jars Medium or Dark Extracted Honey.—1st, R. Morgan; 2nd, D. George.

Six 1-lb. Jars Medium or Dark Extracted Honey.—1st, J. Boyes; 2nd, R. Morgan.

Beeswax.—1st, D. George: 2nd, R. Morgan.

Articles of Food containing Honey.—1st, W. T. Gunter; 2nd, R. Morgan; 3rd, D. George.

Display of Honey.—No award.

NOVICES' CLASSES.

Six 1-lb. Sections.—No award.

Six 1-lb. Jars Light Extracted Honey.—1st, J. F. Braddick, Cardiff; 2nd, J. J. Graham, Sully.

OPEN CLASSES.

Twelve 1-lb. Sections.—2nd, H. D. Davidstone, Basingstoke (no 1st award).

Twelve 1-lb. Jars Light Extracted Honey.—1st, J. Boyes; 2nd, R. Morgan; 3rd, W. T. Gunter.

Beeswax (not less than 2 lb.).—1st, R. Morgan.

Collection of Hives and Appliances.—1st, John Hibbert and Sons, Cardiff; 2nd, E. J. Burtt, Gloucester.

Observatory-hive with Queen and Bees.—1st, T. W. Roberts, Penarth.—WM. RICHARDS, Hon. Sec.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

AMONG THE BEES.

A STUDY OF "CROSS" CYPRIANS.

[6800.] Anyone who likes can read the above alternatively as a Cyprian cross, So long as the *cross* remains I don't care whether the word is read as a noun or an adjective. My present experience is of recent origin, being only a year old. My first introduction to Cyprians was, however, somewhere about twenty years ago, in the apiary of the late Mr. W. Stokes, Duthil Bee Farm. He had, one day when I was visiting his apiary, been praising the beauty of his recent acquisition, but said nothing of their temper, and modestly drew back when I innocently and unsuspectingly marched forward to make a closer investigation. I retreated in double quick time, irrespective of appearances, to find my veteran friend already in shelter. He had many other grave faults to find with them in addition to their vicious temper, and, like so many more, soon cleared them out.

Last year what was described as a Cypro-Carniolan stock was sent me. They were just *fairly* good-tempered, but although the queen seemed a fine handsome creature and laid well, the stock did not excel in honey-gathering. I think I drew attention last year to certain peculiar traits of this particular bee. Wishing as an experiment to raise a cross between her progeny and a black drone,

I formed a nucleus and obtained a mated queen. She turned out about as yellow as an "all golden," but appeared very small; yet she proved a rather prolific mother. Her daughters turned out well ringed, with very clearly marked bands of dark and yellow, while the extreme third of the abdomen was an intense shiny black.

The queen herself was abnormally shy and bashful—or, perhaps, I should say sensitive and nervous—scampering off at a rapid rate round the shady side of the frame, and on at least two occasions flying from it directly down among the crowd of bees in the hive. She ceased ovipositing at an early date last year, and started again early this spring, at first at such a pace that I fancied I was to have a champion lot; but somehow they increased very slowly in numbers. Early in May she began contracting her ovipositing and erratically scattering her eggs in a manner I had never observed in any other queen, laying here and there outside the cluster even, and never packing a frame. Then for some time she almost ceased laying. This peculiar behaviour was not at all to my mind, and so, for these and her other sins, she was deposed and a black queen introduced to reign in her stead.

The yellows were excellent pollen-carriers and very industrious workers, being diligent in business and carrying in extra loads. But it is of their temper I meant to tell in this article. Wasps—yes; but worse than that. You must in general annoy or insult a wasp to raise its ire, but not so with my "cross" Cyprians, whose irascibility needed no spark to kindle it into flame. They themselves carried the match and the gunpowder.

When other hives would have only a dozen guards in evidence at the fortress gates, these spitfires would have hundreds. The flight-board would at times be alive with them, and the whole hive-front a mass of angry, buzzing bees. Even their own sisters were not above suspicion, and antennæ were constantly being extended in inquiry. The constant movement of this excitable mass made things lively for yards around, and the fierce and passionate flings they got into for the very smallest reason—often, apparently, for no reason—gave an idea how they would act if the provocation were serious. I thought that their excitability was demoralising to even the neighbouring hives, whose bees had now and again to stand on the defensive owing to the uncalled-for aggressiveness of the demon crew.

Their conduct was often a perfect revelation to me. Speak of jarring a hive—the gentlest touch, causing the merest scintillating semblance of a vibration, brought them out to inquire the reason why. A gentle motion to remove the hive-roof brought out hundreds circling all round. Any rough shake in lifting it called forth thousands. Even when they were quietly and guardedly approached, with the mere desire to study them from a respectful distance, they seemed to take umbrage. A peep round the corner to see how they were working was treated as an insult; a movement of the slides to contract the entrance was resented so emphatically that more than once I had brought to my recollection the truth of the adage that "Discretion is the better part of valour." If I poked my finger in their direction, the performance caused such a ferment that I had to clear off.

Any feeding raised an abnormal state of excitement. Any smell of honey or syrup brought them speedily out, and their stings were lavishly dealt out to any living thing moving about. I cannot say they were specially bad robbers, however, but "Nemo me impune lacessit" might be written over their hive-entrance. Woe betide the would-be intruder who desired to force an entrance at their strait gate!

It might be thought that manipulating such a vicious lot of bees would be a trying ordeal, but this is only partly true, as they certainly showed far more temper outside than in. A judicious amount of smoke, with gentle movements in manipulating, made the operation at least a possibility; but any jerks, angular movements, or over-handling fairly demoralised them. I know, because I tried on each of these tricks, little to my comfort or peace of mind, because for five minutes—until I "shut shop"—things were very lively indeed. How they found their way towards pervious parts was a marvel, and the penetrative power of their stings was extraordinary, while the quantity and quality of their venom were a revelation to me. Then they followed me all over the premises—a bad vice, as others suffered for my sins. For this cause alone I was glad to see the last of my "cross" queen, and will not regret when the last of her progeny disappears.—D. M. M., Banff.

SALIENT POINTS IN BEE-KEEPING.

[6801.] *Pollen-clogged Combs.*—While an excess of pollen in a hive is undesirable, it must not be forgotten that some pollen is as essential as honey to the bees' sustenance. A friend points out to me that foul brood is most prevalent in seasons when the bees are confined to their hives for long periods while breeding is going on, and he considers that a short supply of pollen predisposes the bees to disease. There is, I think, no doubt that such is the case. He also points out that wind-swept places such as the Cornish peninsula are more liable to disease than sheltered localities. This, too, is, I be-

lieve, a fact. Confinement of bees for long periods in our crowded hives certainly conduces to disease. The immunity from disease amongst the bees of North Africa may be due to the more genial climate permitting constant flight and the provision of fresh food.

On the other hand, my own opinion is that no germ can prevail against a perfectly healthy organism. The latter must be weakened from some cause before it succumbs to the invader. I have worked daily amongst disease in a London hospital, and never "caught" any complaint. Doctors or nurses seldom fall victims to infection.

Renewing Combs.—I have just one final comment to make on this matter. The objection to renewal because foundation is expensive is, I think, of no importance whatever. If we put in ten sheets of foundation this year we get them back with interest if we boil the combs from same down for wax the next year. The cost of comb-foundation is, therefore, about *nil*. The real cost is for sugar required for syrup-making in feeding the bees for winter. But even that may be partly or entirely defrayed by the honey stored in the condemned combs. Our friends who live in a district where foul brood is prevalent will find it advantageous to renew combs frequently, and even where foul brood does not exist the practice has much in its favour. New combs are certainly cleaner and sweeter than old ones, and there is no stale pollen in the hive. Some hives have given me 150 lb. of surplus in our rather poor district when managed on this plan, despite foul brood in the neighbourhood. My bees get the disease sometimes, but it never spoils my surplus nor diminishes it in any way. I admit it causes much extra work, but by "driving" condemned bees every year I manage to keep my apiary going. I offer this secret free to all who care to use it. Work on my oft-published plans, and foul brood will not entirely wipe your bees out.

The "Rymer" Honey-board.—Some bee-keepers do not seem to understand the use of these. Let me say, therefore, they are intended to be placed between supers to prevent the frames being joined to those below in one solid mass. I once had five stories of surplus-chambers joined together by brace-combs in this way in a rapid honey-flow, and it was a job to get them off the hive. The "Rymer" boards are, I find, a necessity in my case. I have a set of four to every hive. They are not intended to take the place of excluder-zinc, and would be useless for such a purpose. None, of course, are placed on excluder-zinc; they are used in the upper tiers only.

Criticism.—There are, I suppose, times when the best of people feel and speak rather strongly, and afterwards they themselves feel a good deal of regret for being over-hasty or temporarily ungenerous. Charity to each other is a good thing. We all need to be excused some time or other: we often find it hard to excuse ourselves. —W. J. Farmer, Redruth.

HAMPSHIRE NOTES.

UTILISING DRIVEN BEES.

[6802.] The time being now close upon us for making up colonies from driven bees, and in view of the failures reported in B.B.J. to make this operation a success, may I be allowed to offer a word of advice on what is to me rather an important item, because it is from driven bees that I build up my apiary more than by natural or other swarms? I have, however, found one point which many probably overlook, viz., the pollen supply. They suppose that with, say, half a dozen built-out combs, plenty of bees and syrup, and a good supply of winter covering all should go on right, forgetting that pollen cannot possibly be dispensed with, especially during the early days of breeding in the following spring. If this point is carefully attended to there is no reason why driven lots should not do as well as any established colony. Two or three combs taken from other healthy colonies will supply the necessary pollen, and with a young queen heading the stock success is about certain. A candy-cake with pea-flour in it is very useful put over the cluster soon after the new year comes in.

Referring to Mr. Crawshaw's remarks in "Cappings of Comb" (page 306), wherein he alludes to my "Notes" (page 256), I certainly should not have advised discarding excluder-zinc on *all* occasions because doubtless many use drone-base foundation in extracting supers, which of course means drone-combs, and should the queen take up her abode there for a day or two it would indeed be troublesome. I therefore withdraw the words "all occasions" as unsafe, and will only use them when referring to supers containing worker-combs only, which, as Mr. Crawshaw suggests, I use.—Owen Browning, Kingsomborne, Hants.

BEES' EGGS BY POST.

[6803.] Many of your readers may be interested to learn that eggs for queen-rearing may be successfully sent by post. Having, however, met experienced bee-keepers who doubt this, I will simply relate my eggs-by-post experiment. When visiting Mr. E. H. Taylor at Welwyn in the spring I was struck with his hybrid strain of bees, and inwardly resolved that at a convenient

opportunity I would test the "eggs-by-post" theory with this strain of bees. On July 10 I sent in a cardboard box two pieces of comb about an inch square, and asked Mr. Taylor to send a piece of comb the same size containing eggs from his best hybrid stock, and also a piece of comb with eggs from a Carniolan colony. I inserted these pieces of comb in apertures cut out to receive them in another comb, and set some bees to develop them. When the eggs were three or four days old I put them in queen-cell cups and gave to a colony busily engaged in queen-raising. This same colony, by the way, had four different sorts of eggs in their cups. They rejected some of the eggs which came by post, as well as those of other kinds, but in the end succeeded in rearing two hybrid queens and two Carniolans out of those eggs which arrived by post from Welwyn. The queens referred to hatched on July 24, and to-day (August 5), eleven days old, two of the hybrids and one Carniolan have laid nearly a thousand eggs each. It appears to me that the "bee-egg" business is a much-neglected branch of apiculture, and I look forward to the day when advertisements such as "Settings of bee-eggs from a queen whose colony last year produced 100 sections and 25 lb. extracted honey" will become a regular feature in B.B.J. advertisements. — J. Silver, Croydon, August 5.

[The "bees' eggs by post" is not a new idea, having been started some years ago, but it seemed to die out or fall into disuse. It is new to hear of it being successfully carried out.—Eds.]

SWALLOWS AND BEES.

[6804.] Referring to your correspondent's letter (6791, page 297) under the above heading, I do not think the swallows were taking his bees, but were in search of some other insects. Quite a large colony of swallows rear their young near my apiary, and although I have watched them many times, I have never seen them take any bees. If your correspondent will secure two or three specimens for dissecting purposes the matter could soon be cleared up. — A. Newstead, Chester, August 2.

DEALING WITH DISEASED STOCKS.

[6805.] I am very much obliged for your letter telling me the nature of disease in the three pieces of comb sent, and also for the printed instructions regarding cure, &c. I, however, may tell you that I had destroyed five hives of bees before sending the comb for inspection. I had not seen foul brood before to my knowledge, but felt certain it was disease of some kind. The hives of bees in question were bought at a sale, and it is strange I saw no perforations of the cells last year, while this year dozens of cells were sunken and perforated. I bought ten swarms in June last from England, and hope they will not have been infected. They were all put in new hives, frames, &c.—G. G. M., Kirriemuir, N.B.

DRONE-COMB ON "STARTERS."

[6806.] Your correspondent F. B. Thompson (6788, page 296) mentions drone-comb not being built from starter on one frame which was spaced closer than the ordinary distance apart. May I be allowed to say if he had spaced his frames $1\frac{1}{4}$ in. apart, or just within $1\frac{3}{10}$ in., he would have had nearly all worker-comb? Even if he were to supply drone-foundation and space it 1 in. or $1\frac{1}{8}$ in. apart the bees would convert it into worker-comb. Bees seem to know the width: their architect has an accurate foot-rule. —J. S., Croydon.

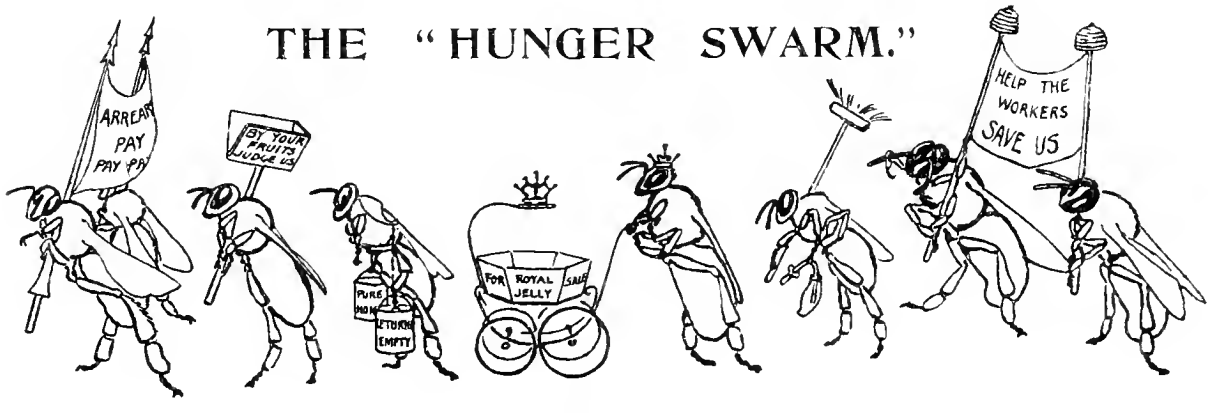
DRIVEN BEES AND FOUL BROOD.

[6807.] As the season for securing driven bees is approaching I would caution beginners, also those who are about to increase their stocks with the help of driven bees, to be sure to medicate their syrup. For it is astonishing what a lot of foul brood there is in the country. I know of two cases last year where driven bees were sold from infected skeps. I should not, however, like to affirm that the seller knew the hives were diseased. Which is one of the advantages that the expert possesses over the amateur in that he must be thoroughly conversant with the appearance and symptoms of foul brood before he can secure his certificate. I would also advise any beginner who is proposing to buy bees privately or by auction to engage an expert to examine them previously. The usual charge for this is 1s. per hour, and the information is worth the money. Here is a case in point. I was cycling through a village on July 19, when I met a bee-keeper, the handy man of the place. Says he, "I have six stocks of bees in frame-hives, and only one has gone up into supers. Can you tell me the reason, sir, because they did so well last year?" "Yes," I replied, "the cold season no doubt, because most of my own bees will not get up into sections at all this year, I fear." As I walked up the garden to see the hives I caught a whiff of foul brood; but as two pigs were in a not very well littered sty close by I thought my nose might be mistaken. But on approaching the hives I could see that all was not

right by the crowds of common flies attempting to enter, and on applying my nose to the entrances I could smell the disease in every hive, which was confirmed on opening and examining. Says he, "Feythur's skeps have all got it too, then!" We went to look, and found that they had. Even a strong swarm of May 8 only covered a few combs no larger than tea-plates, and every other grub was rotten. On inquiry I found that a bee-keeper in the village whose bees had done badly even last year had bought his bees a few miles away the previous year, unaware that they were diseased. Thus, then, is foul brood spread, and through ignorance. For my own part, I do not fear foul brood. A strong stock, with a good queen and medicated syrup when needed, will always keep it at bay. I have noticed that skeppists usually keep their swarms and sulphur their old stocks, which may have tended to keep the disease down in the past, otherwise the race of bees would have been wiped out ere this. To conclude, I advise all never to buy a stock of bees without first having it examined by an expert.

We enjoyed ten days of bee-weather from July 11 to 21—the Sunday of thunderstorms—since which the weather has been cool and unsettled, and bees have done little. I fear the season here is about over.—EXPERT, Cheltenham, August 5.

THE "HUNGER SWARM."



UNEMPLOYED.

Good people! All who see us in this terrible position
Attend a moment to our case, and list to our petition;
'Tis not a pageant we present before a Royal Session,
But sadly on our way we go—a funeral procession.

You've helped us on our gala days—we've ne'er cried "Wolf!" before, so
Now we ask your help again—we need it, only more so!
We've just deserted hive and home, grown nymphs and eggs enlarving;
But not in reckless *joie de vivre*. Ah, no, alas! we're starving.

And not alone for selves we thus present our frail petition,
But others are as poor as we, perhaps in worse condition;
About your doors on every hand are stocks in state distressing,
"Go, feed them in their poverty, and reap yourselves the blessing."

L. S. CRAWSHAW, Ilkley, Yorks.

Queries and Replies.

[3565.] *Wax-moth in Hives.*—I have enclosed what I believe to be a bunch of cocoons containing larvæ of the wax-moth. It was taken from a section left standing on a frame-hive new two seasons ago. Will you please let me know if I am right, and what is best to be done in the case? Do you advise putting the bees in a fresh hive on full sheets of foundation, or can you tell me of a remedy without moving them? If they are to be transferred to a fresh hive, please let me know the easiest way to do it. I might add the stock has swarmed twice this year, and nearly filled a rack of twenty-one sections. I send name for reference. — HUMBLE NOVICE, Whitchurch, Hants.

REPLY.—You are quite right, the cocoons being those of the genuine wax-moth (*Galleria cereana*). As the stock has swarmed twice, and will, in consequence, not be overcrowded with bees or brood, it should not be difficult to get the bees and queen into a new hive furnished with full sheets of foundation (or drawn-out combs for preference), in lieu of any infested with moth that may need melting down. The bunch of cocoons sent have apparently occupied the space between the section-rack and top-bars of brood-chamber—inaccessible to the bees—and thus safe from being killed and cast out by the latter.

[3566.] *Bees Dwindling Away in Summer.*—Will you kindly say if this queen is worn out or a drone-breeder? I bought a good swarm in June, 1906, with queen in her second year, and the bees had plenty of stores when packed for winter. In March last they were a strong stock, but the bees had so diminished in June as only to cover three or four frames; not only so, but half of them were drones, and there was no brood at all in the combs when examined. I also noticed five queen-cells, which the bees had opened or torn down. There are now only about a handful of bees left, and I have procured a fresh nucleus with 1907 queen to unite them to. 1. Is the queen worn out, and have I done right? 2. If the worker-bees decide by the form of the cell what the egg shall be reared into, how can the queen be to blame?—(Miss) M. A., Torquay, July 29.

REPLY.—1. The dead bees and queen were so saturated with honey for food sent in box as to make it quite impossible to say anything in reply to your query. 2. The question of safe mating of queens is beyond the bees' control, nor is the young queen to blame for the failure to mate, so much depends on weather and drones being on the wing.

[3567.] *Bees Superseding Queens.*—On examining my strongest colony on a certain Saturday in July I discovered the queen minus her wings. She seemed all right otherwise, as there were eight frames of brood and eggs. Three days afterwards I found the queen on the alighting-board, and I presume she has been cast out. Will you therefore kindly inform me: 1. How she came to lose her wings? 2. Why have the bees cast her out, seeing she was prolific enough? 3. Shall I leave the bees to raise another queen, as the hive is at the present time doubled? A reply will greatly oblige.—WACHT-EN-BIETJE, Vange, Essex.

REPLY.—1. It is beyond our power to say how a fertile and prolific queen is found wingless, unless the bees have nibbled away the poor queen's wings in the process of "balling" before casting her out. Young queens are occasionally found with aborted wings through lack of sufficient warmth while hatching; but such queens become drone-breeders simply through inability to fly and meet drones in the air for mating. 2. They have no doubt deposed her and raised another queen. 3. Leave bees as they are; but ascertain if worker-brood is being reared in the hive.

[3568.] *Dealing with "Cast" in Hedge.*—I have three hives of bees which swarmed as follows:—No. 1, June 7 (returned to parent hive); Nos. 2 and 3, swarmed on June 17, and both swarms were returned as No. 1. No. 3 sent out a cast on June 23, which settled on the ground at the foot of a young tree, the bees being exposed for two very wet nights, as I was away from home. On my return (June 25) I covered them over with a skep, and on June 28, having been from home again, I returned the swarm to parent hive. On July 15 my attention was called by some haymakers to a swarm, or "cast," in a quick-set hedge about 20 yards from my hives, and as they were disowned by my nearest bee-neighbour, about 300 yards off, I conclude they must be mine. They are a fine lot of bees, and have built comb extending about 12 in. to 14 in. from the top of the cluster. I can distinctly see two combs, and there may be more. I propose fitting up a frame-hive with full sheets of foundation, and after shaking the bees into a skep—combs and all—placing them on top of frames. Do you advise this, or can you suggest any other plan? I enclose card.—E., Amersham Common, Bucks.

REPLY.—Shaking the bees, "combs and all," into a skep for placing above a frame-hive will not do at all; in fact, you should not think of such a plan. If the combs can be cut away separately, without breaking, the bees should be driven from the combs by smoking, and each comb cut out as cleared. This done, tie the combs securely into frames by means of laths below (for support), and tapes under laths and above top-bars of frames. Then fix the hive with transferred combs above the cluster of bees, as close to the latter as possible, and the application of a little smoke below will cause them to run up and take possession of the combs overhead.

Bee Shows to Come.

August 8 to 10, at Barnsley.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. **Entries closed.**

August 14, at Wye (Kent Honey Show).—Five Classes open to the United Kingdom. Trophy Cup value £3 3s. (entry 1s.), 1 lb. Section, 1 lb. Light Run, 1 lb. Dark Run, 20s., 10s., and 5s. in each case (entry free); Beginner's outfit, retail price not to exceed 30s. (entry free). Open to Kent only (fourteen Classes): President's Challenge Cup, value £6 6s., for 6 1 lb. Sections and 6 1 lb. Jars Extracted Honey. Money prizes for 6 Sections, 6 Jars Light, 6 Jars Medium, 6 Jars Dark, 2 Shallow or Standard Frames, 3 Sections and 3 Jars, Beeswax, Mead, Candy, Cake Sweetened with Honey, Display of Cut Flowers, &c., &c.; two Special Classes for Cottagers. **Entries closed.**

August 16, in Public School, Portwilliam, Wigtownshire.—Honey Show in connection with the Horticultural Society. Classes for Sections and Extracted Honey, open to amateurs and cottagers. Challenge Class (open to all) for 3 1 lb. Jars Extracted Honey, prizes 20s., 12s., 8s., and 4s. Schedules from Secretary, Horticultural Society, Portwilliam, N.B.

August 21, at Lancaster.—Show of Honey, &c., in connection with the Lancaster Agricultural Society's Annual Show. Open Classes for Extracted and Comb Honey, also Beeswax and Produce. Challenge Cup value £5 5s., also six silver and bronze Medals, and other Specials. **Entries closed.**

August 21, at Radstock.—Annual Show of the Somersetshire B.K.A., in connection with the Radstock Horticultural Association. Seven open and two free classes; good prizes. Schedules from Her-

bert J. Moore (Show Secretary), Foxcote, Radstock. **Entries close August 14.**

August 21 and 22, at Shrewsbury.—Shropshire B.K.A. Annual Show, in connection with the Shropshire Horticultural Societies' Great Floral Fête, in the Quarry, Shrewsbury. Nine Open classes for Honey and Wax. Free entry for single 1 lb. jar and single 1 lb. section. Schedules from S. Cartwright, Hon. Sec., Shawbury, Shrewsbury. **Entries close August 9.**

August 27, at Cartmel, Lancashire.—Honey Show in connection with the Cartmel Agricultural Society. Open classes for Sections, Extracted Honey, and Beeswax. Local classes for Sections and Extracted Honey. Schedules from J. N. Parker, Secretary, Cartmel, viâ Carnforth. **Entries close August 15.**

August 28, at Chester (Cheshire Agricultural Society's Show).—Bee and Honey Department, under management of the C.B.K.A. Open classes for Hives, Sections, and Extracted Honey. Increased prizes. Members' classes, District class. Special prizes offered by Chester Tradesmen's Association. Schedules from T. A. Beckett, St. Werburgh's-chambers, Chester. Post entries at double fees to **August 14.**

August 28 and 29, at Rugby (Warwickshire B.K.A.).—Show of Honey and Bee Appliances, in connection with the Annual Show of the Warwickshire Agricultural Society. Schedules from Jas. N. Bower, Hon. Sec. Warwicks. B.K.A., Knowle.

August 28 and 29, at Osmaston Park, Derby.—Annual Show of the Derbyshire B.K.A. Increased prizes. Reduced entry fees. Schedules now ready. Apply, R. H. Coltman, Secretary, 49, Station-street, Burton-on-Trent.

September 5, 6, and 7, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-five Classes (nine open to all). Increased prizes and medals. Schedules from F. B. White, Secretary, Marden House, Redhill, Surrey. **Entries close August 22.**

September 7, at Bramhall, Stockport.—In the grounds of the Bramhall Hall, by permission of C. H. Nevill, Esq., Honey Show in connection with the District Horticultural Society. Low entrance fees. Three Open Classes, with liberal prizes. Schedules from J. Sibson, Bramhall, Stockport. **Entries close August 31.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Trades' Fifteenth Annual Exhibition and Market. (See large advertisement on page iii.) **Open to all British Bee-keepers.** Entry fee in each class 1s. Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 12, at Castle Douglas (South of Scotland B.K.A.).—Exhibition of Honey and Wax in connection with the Dairy Show at Castle Douglas. Five Open Classes; Three Bottles Run (20s., 12s., and 6s.); Three Sections (15s., 10s., and 5s.); One Bottle (4s., 2s., 1s.); One Section (4s., 2s., and 1s.); Wax (5s., 3s., and 2s.). Schedules from Q. Aird, Hardgate School House, Dalbeattie, N.B. **Entries close August 31.**

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the Fifteenth Annual Exhibition and Market of the Grocery and Kindred Trades. Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 25, at Altrincham.—Honey Show, in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. Classes for Trophy of Honey, for Best Hive, Observatory Hive with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester: Amateur-Built Hive, two Shallow Bars, Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low Entrance Fees. Schedules from Mr. J. Herbert Hall, 2, Dunham-road, Altrincham. **Entries close September 7.**

October 17 to 26, at Waverley Market, Edinburgh.—Honey show in connection with the Eleventh Annual Edinburgh and Midlothian Industrial Exhibition. All open classes. Beautifully illustrated prospectus, price 2d., from A. Hutchinson, 15, Leith-street, Edinburgh. **Entries close October 3.**

Notices to Correspondents.

BEES IN WIGTOWNSHIRE.

*** Our friend Mr. W. McNally, dating from Glenluce, N.B., on July 25, says:—"Bees here are 'booming.' Making up for lost time. Clover is at its best and blooming splendidly, while the heather promises very well."

*** A reverend correspondent, dating from Norfolk, writes as follows:—"May I suggest that you ask in your columns for subscribers to send in (for publication in the B.B.J.) their average takes of honey per hive, spread over, say, twenty years or less—something as follows:—Number of hives, average take in pounds per hive per annum. I would undertake to send in mine." If the above suggestion is adopted, we will be very pleased to publish results.—[EDS.]

W. A. KENNEDY (Ayrshire). — *Scientist and Foulbrood Germs.* — Whoever the "distinguished scientist" may be whom you heard say that "no microbes or disease germs can withstand immersion in boiling water," the gentleman was evidently unacquainted with the nature of the spore of foul brood, *i.e.*, the germ in its latest stage. It is a fact proved beyond contention that spores of *Bacillus alvei*, or foul brood, will germinate after being boiled for nearly one and a half hours.

J. G. K. (Southborough).—*The Isle of Wight Bee Disease.*—You will find the full report of the Board of Agriculture on the disease in question in our issues of July 18 and 25. We remember your valued contributions to our pages between the years 1886-92 very well, and are glad to find that at seventy-four your interest in the bees is still maintained.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

WANTED, new Sections. State price, carriage paid.—J. SILVER, Croydon-grove, Croydon. b 18

DRIVEN BEES, strong healthy lots, with 1907 fertile Queens, 5s. lot; also 1907 laying Queens, 2s. 6d.—THOMAS BRADFORD, Expert, 21, Little Park-street, Worcester. a 89

WANTED, Sections, Standard and Shallow Frames, also Foundation, in exchange for Driven Bees, ready first week in September.—W. BARNES, Exning, Suffolk. b 17

WANTED, Wax Extractor, with Boiler. State price, particulars.—MATHER, Provanhall, Stepps, Glasgow. b 14

HEALTHY DRIVEN BEES FOR SALE, extra good lots, 5s. per lot; boxes free; delivery by August 19.—W. D. J. RICHARDS, postman, Kingswinford, Dudley. b 10

APICOL CURES ALL STINGS, makes Bee-keeping a pleasure; no pain or swelling; 1 oz. bottle, 7d., post free.—WHITTON, Langdon Hills, Essex. a 44

15TH YEAR.—Healthy Driven Bees, with young fertile Queen, 5s.; cases free; guarantee safe delivery.—SOLE, Expert, Poplar-grove, New Malden, Surrey.

Special Prepaid Advertisements.—*Continued.*

OVERSTOCKED.—For Sale, cheap, six extra strong Stocks, in single and "Wells" Hives, with supers and stores for wintering; choice of sixteen Stocks.—HOLDSWORTH, Kirton Lindsey, Lincs. b 6

FOR SALE, several strong healthy Stocks, in Standard Bar-framed Hives, on rail, £1 each. —J. WILSON, Elkington, Louth. b 19

WANTED, FOR CASH, Extracted Honey or Sections; exchange Stocks in Skeps, on Frames, Nuclei, &c.; 3-Frame Nucleus, 1907 Queen, 10s.; Stocks in Frame-hives, winter stores, from 25s., guaranteed healthy.—W. WOODS, Normandy, Guildford. b 8

FOR SALE, quantity of good Shallow Frame Combs, 5s. per doz.; also a few Section Combs, 2s. 6d. per doz.—SMITH, The Apiary, Woodmancote, Cirencester. b 7

SECTIONS, unglazed, 9s. per doz.; Screw-cap 1-lb. Jars of Medium Honey, 9s. per doz.; carriage paid on gross lots; tins, 58s. per cwt.—"P.," care of "Bee Journal." b 11

OFFERS WANTED for Driven Bees, with Queens, end of September.—CUCKSEY, Elderberry, Mildenhall, Soham. b 9

DRIVEN BEES, good healthy lots, from 4 lb. to 5 lb., at 5s. each; boxes returnable; delivery after August 20.—OWEN BROWNING, Ashley, Kingsomborne, Hants. b 16

WANTED, First-Class Observatory Hive.—Price, particulars to PIDDUCK, Sunnyside Apiary, Alsager, Ches. b 13

SUPERS, Boxes of Shallow Frames, complete with perfect drawn-out Combs. Price 6s. 6d. each.—PIDDUCK, Sunnyside Apiary, Alsager, Ches. b 12

BEST LIGHT CLOVER ENGLISH RUN HONEY, in any quantity, required by the BATH AND SOMERSETSHIRE DAIRY CO., LTD., Bladud Buildings, Bath, 48s. per cwt., free on rail. Send small sample. b 15

250 LOTS DRIVEN BEES, 5s., good lots, in boxes, free on rail.—GREAT BEE FARM, Whitchurch, Hants. b 5

HEALTHY DRIVEN BEES, ready middle August, 3s. 6d. per lot, or 1s. 3d. per lb.; not less than 4 lb. lots; orders cash, delivered rotation; boxes returnable.—H. C. SMITH, The Apiary, Woodmancote, near Cirencester. a 92

HEALTHY DRIVEN BEES, with Queen, 5s. per lot; boxes returnable; spare Queens, 2s. 6d. each; tenth season.—A. R. MORETON, Bee Expert, Hallow, Worcester. a 94

BEAUTIFUL Young Fertile Golden Queens, 4s. each.—O. KNIGHT, Epney, Stonehouse, Glos. a 83

HEALTHY DRIVEN BEES WANTED, in 4, 6, or 8-lb. lots, first and second week in August; will give 1s. per lb., provide travelling boxes, and pay carriage. Cash by return post after receipt of bees.—J. BALMBRA, East Parade, Alnwick. a 76

THREE-FRAME NUCLEI, 10s.; Healthy Stocks on Wired Combs, from 20s. each. Good Sections Wanted.—R. CARTER, Chartridge, Chesham, Bucks. a 87

WANTED, for cash, 1 cwt. Best Light Clover English Run Honey, free on rail, empty returnable. Send 2 oz. sample.—A. S. BURN, Market Lavington, Wilts. a 62

FOR SALE, 500 Young Fertile Pure Carniolan Queens, 4s. each; also 500 Young Fertile Caucasian Queens, 7s. each; cash with order.—HAUNSCHILD, Weissbach-by-Pulsnitz, Saxony.

31ST YEAR.—Healthy Driven Bees, 5s. 6d., cases free.—ALSFORD, "Expert," Haydon, Sherborne. a 52

Special Prepaid Advertisements.—*Continued.*

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

WANTED, for Scientific purposes, DEAD QUEEN BEES, and WORKER HORNETS. Will brother Bee-keepers oblige?—HERROD, Apiary, Luton.

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester.

GOLDEN-ALL-OVER QUEENS, 6s. 6d. to £1. —E. L. PRATT, Swarthmore, Pa., U.S.A. Handsome 24pp. brochure free.

THREE-FRAME NUCLEI, 1907 Laying Queen, 10s. cash; Strong Stocks, 20s. each.—HEMMING BROS., Standlake, Witney. a 73

DRIVEN BEES, guaranteed healthy. Orders now booked; delivery in rotation; 1s. 3d. per lb., f.o.r. Boxes to be returned. Cash with order. —T. D. SINFIELD, 26, Upper George-street, Luton. a 38

SECTION GLAZING.—Best quality neat patterns in lace paper, made especially to my order (not common thin box edging). White, 1in. wide, 100 6d., 500 2s. 3d.; Pink, Green, Blue, 100 7d., 500 2s. 6d.; Lace Bands, White, 2⅞, 3, and 3⅛ in. wide, 100 1s. 3d., 500 4s. 6d.; Pink and Pale-blue, 100 1s. 6d., 500 6s. Cash with order; post free.—W. WOODLEY, Beedon, Newbury.

HEALTHY DRIVEN BEES, commencing August 1, 3s. 6d. per lot, with Queens; boxes to be returned; orders rotation. Cash with order. T. PULLEN, Ramsbury, Hungerford. a 34

WANTED, New Sections, first quality; prompt cash.—W. CHILTON, Southdown Apiaries, Polegate, Sussex. a 33

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw-cap jars, 77s. gross, 21s. ¼ gross; ½ lb. ditto, 45s. gross, 13s. ¼ gross; Honey in bulk, 48s. cwt.; samples, carriage paid, 8d. Further prices and particulars on application.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 74

HONEY JARS.—We have contracted largely for special well-finished machine-made screw-top jars, each washed and wrapped in paper, complete, with caps and cork wads, 15s. 6d. gross, 43s. 3 gross; ½ lb., 12s. 6d. gross, 37s. 3 gross.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 75

BRICE'S 1907 HYBRID QUEENS, tested, 5s. 6d.; Virgins, 3s.; safe arrival guaranteed.—HENRY BRICE, Brigstock-road, Thornton Heath, a 13

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

Cartmel Agricultural Society.

AUGUST 27th.

35th ANNUAL SHOW.

OPEN CLASSES FOR HONEY AND WAX.

The Lancashire Bee-keepers' Association offer Silver and Bronze Medals for Honey. Open to Members residing in the County or near the Border.

Entries Close August 15th, 1907.

Judge—MR. J. N. BOLD. Schedule ready.

J. N. PARKER, Secretary, Cartmel, Lancs.

DON'T GET STUNG,

when by using **APIFUGE** you can easily prevent it.

APIFUGE will also be found extremely useful for travellers in foreign countries where insect pests abound. Bottles, **1/-** post free.

S. E. CRIMSHAW, 4, Reginald Place Chapeltown, LEEDS.

Editorial, Notices, &c.

NEW EDITION OF THE "GUIDE BOOK."

We shall be glad if applicants for the new edition of the above will note that, owing to the increase in the size of the book, the postage is 2½d. for the paper-covered edition, instead of 2d. as formerly. The odd halfpenny is but trifling to individual purchasers, but when counted by hundreds the loss to ourselves is appreciable. Cloth-covered copies on order are now being sent out rapidly.

Apart from the above—purely business—announcement, we may say the favourable reception with which the new edition has been received is highly gratifying, and fully justifies the trouble and cost involved in making it practically a new book.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of July, 1907, was £3,850.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

HENBURY DISTRICT B.K.A.

ANNUAL SHOW.

The ninth annual show of the above Association was held on July 31 at Henbury in connection with the Horticultural Society's Exhibition. Considering the unfavourable season, the number of the exhibits was greater than was anticipated, and the quality of the honey was excellent, some splendid sections being staged by Messrs. E. C. R. White and Thos. George. Mr. S. Jordan, of Bristol, gave interesting lectures and demonstrations in bee-keeping, the subject of foul brood and its treatment receiving special attention. Messrs. S. Jordan and James Brown officiated as judges and made the following awards:—

OPEN CLASSES.

Trophy of Honey.—3rd, W. H. Pretty (1st and 2nd not awarded).

Twelve 1-*lb. Sections.*—1st, E. C. R. White; 2nd, Thos. George; 3rd, W. Knee.

Twelve 1-*lb. Jars Extracted Honey.*—1st, Wm. Vowles; 3rd, E. C. R. White; h.c., Thos George (2nd not awarded).

Single 1-*lb. Section.*—1st, Thos. George; 2nd, Wm. Vowles; 3rd, E. C. R. White; h.c., W. H. Pretty.

Single 1-*lb. Jar Extracted Honey.*—1st, S. G. S. Leigh; 2nd, H. W. Saunders; 3rd, Thos. George; v.h.c., Wm. Vowles; h.c., E. C. R. White; c., Miss Dorothea Edwards.

Beeswax.—1st, E. C. R. White; 2nd, Thos. George; 3rd, Wm. Vowles; v.h.c., A. Baker.

MEMBERS' CLASSES.

Twelve 1-*lb. Sections.*—2nd, Thos. George (1st and 3rd not awarded).

Twelve 1-*lb. Jars Extracted Honey.*—2nd, A. Baker; 3rd, W. H. Pretty (1st not awarded).

Six 1-*lb. Sections.*—1st, Thos. George (2nd and 3rd not awarded).

Six 1-*lb. Jars Extracted Honey.*—1st, W. H. Pretty; 2nd, A. Baker; 3rd, Thos. George.

Three Shallow-frames for Extracting.—2nd, H. F. Jolly (1st and 3rd not awarded).

Three 1-*lb. Sections.* — 1st, Thos. George; 2nd, Mark Joyner; h.c., W. H. Pretty; c., W. A. Greenslade (3rd not awarded).

Three 1-*lb. Jars Extracted Honey.*—1st, W. H. Pretty; 2nd, A. Baker; 3rd, T. George.

COTTAGERS ONLY.

Three 1-*lb. Jars Extracted Honey.*—1st, Wm. Vowles; 2nd, Mrs. G. Stagg; 3rd, M. Joyner.

Three 1-*lb. Sections.*—1st, Wm. Vowles; 2nd, Mrs. Stagg; 3rd, W. Mutter; h.c., M. Joyner.

NOVICES ONLY.

Three 1-*lb. Jars Extracted Honey.*—1st, Wm. Vowles (2nd and 3rd not awarded).

Three 1-*lb. Sections.*—2nd, W. Mutter; 3rd, Wm. Vowles (1st not awarded).

SPECIAL PRIZES.

Silver Medal.—Thomas George (highest number of points).

Bronze Medal.—Wm. Vowles (second highest number of points).—F. E. MAY, Hon. Sec.

NORTH NORFOLK B.K.A.

SHOW AT MELTON CONSTABLE.

The annual show of the North Norfolk B.K.A. was held, by kind permission of Lord Hastings, at Melton Constable Park, in conjunction with the Melton Constable Horticultural Society's show, on Bank Holiday, August 5.

Lectures and demonstrations in bee-keeping were given in the bee-tent by Mr. C. J. Cooke, hon. sec., at intervals during the afternoon, and were well attended.

Owing to the adverse weather conditions of this season the display of honey could not compare either in quantity or quality with that of last year.

The five-guinea silver challenge cup, awarded for the best exhibit of comb or extracted honey, was won for the second year in succession by Mr. E. Robb, Outwell, with a fine sample of comb-honey, but the sections staged, as a whole, gave evidence of slow completion and bad

finish, whilst many contained honey-dew. In the classes for extracted honey some good samples were staged, though the bulk of the exhibits were of poorer quality than usual, and several of them might certainly have been in cleaner condition for staging on a show-bench. Dr. T. S. Elliot, Southwell, Notts, judged the exhibits and made the following awards:—

Twelve 1-*lb. Sections.*—1st and B.B.K.A. silver medal, E. Robb, Outwell; 2nd, E. Ramm, Houghton; 3rd, S. J. Mayer, Hemblington.

Twelve 1-*lb. Jars Extracted Honey.*—1st and B.B.K.A. bronze medal, H. W. Saunders, Thetford; 2nd, S. J. Mayer, Hemblington; 3rd, J. Mayer, Hemblington.

Six 1-*lb. Sections.*—1st and B.B.K.A. certificate, J. Mayer; 2nd, J. Smalls, North Creake; 3rd, A. Chestney, Bale.

Six 1-*lb. Jars Extracted Honey.*—1st, J. Mayer; 2nd, S. Smalls, North Creake; 3rd, J. Smalls.

Three 1-*lb. Sections and Three* 1-*lb. Jars Extracted Honey.*—2nd, S. Smalls (1st and 3rd not awarded).

Beeswax (not less than 2 lb). — 1st, H. W. Saunders; 2nd, J. Nicholls, Shipdham; 3rd, W. J. Fake, Great Massingham.

OPEN CLASSES.

Twelve 1-*lb. Sections.*—1st, E. Robb; 2nd, S. J. Mayer; 3rd, W. J. Norman, Harpley.

Twelve 1-*lb. Jars Extracted Honey.*—1st, W. B. Allister, Throckenholt; 2nd, W. J. Fake (3rd not awarded).

SPECIAL OPEN CLASSES.

Single 1-*lb. Jar Extracted Honey.*—1st, W. B. Allister; 2nd, H. W. Saunders; 3rd, S. Smalls; 4th, J. Smalls.

Single 1-*lb. Section.*—1st, E. Robb; 2nd, H. W. Saunders; 3rd, J. Mayer; 4th, W. J. Norman.

Challenge Cup, for Best Sample of Comb or Extracted Honey in Members' Classes.—E. Robb, Outwell.—(*Communicated.*)

LEICESTERSHIRE B.K.A.

ANNUAL SHOW.

The annual show of the above Association was held in connection with the twenty-second annual flower show at the Abbey Park, Leicester, on August 6 and 7. The past season has been very unsuitable for honey-production, and the quantity staged was not quite so large as in previous years, but this was counterbalanced by the quality of the exhibits. The class for the "best display of honey" was quite up to its usual standard, and reflected the greatest credit on the exhibitors. Visitors were able to see with safety the manipulations with live bees, which were carried out in the tent adjoining by the expert engaged by the Association. Mr. R. Brown, Somersham, Hunts, officiated as judge and made the following awards:—

Observatory-hive with Queen and Bees.—1st, S. Clarke, Leicester; 2nd, J. H. Hubbard, Leicester.

Twelve 1-*lb. Sections.*—2nd, A. McVinish, Beaumanor (no other prize awarded).

Twelve 1-*lb. Jars (Light) Extracted Honey.*—1st, J. Waterfield, Kibworth; 2nd, T. H. Geary, Leicester; 3rd, H. Dilworth, Shangton; 4th, J. E. Fowles, Broughton Astley.

Twelve 1-*lb. Jars (Dark) Extracted Honey.*—1st, J. Waterfield; 2nd, Miss Laird, Thurnby; 3rd, E. A. Jesson, North Kilworth.

Three Shallow-frames of Comb-honey.—1st, J. Waterfield (no other prize awarded).

Twelve 1-*lb. Jars Granulated Honey.*—1st, S. Spray, Melton Mowbray; 2nd, F. Pickersgill, Withcote; 3rd, T. H. Geary.

Display of Honey.—1st, J. Waterfield.

Six 1-*lb. Jars (Dark) Extracted Honey* (novices only).—2nd, Miss Laird (1st not awarded).

Six 1-*lb. Jars (Light) Extracted Honey* (novices only).—1st, J. Bayliss, Nailstone; 2nd, J. E. Fowles.

Honey Beverage.—1st, T. H. Geary; 2nd, Mrs. Parkinson, Groby.

Beeswax.—1st, T. H. Geary; 2nd, H. Dilworth.

Honey-cake.—1st, Mrs. Waterfield; 2nd, Mrs. Geary.

Exhibit of a Practical or Interesting Nature connected with Bee-culture.—1st, W. K. Bedingfield, Lutterworth.—J. WATERFIELD, Secretary.

NORTHAMPTONSHIRE B.K.A.

ANNUAL SHOW.

The annual show of the N.B.K.A. was held on August 8 (by permission of the Corporation) in Abington Park, Northampton. Owing to the poor honey-season the show was not equal to that of the previous year, but forty exhibitors staged upwards of one hundred exhibits for competition, which made a fair display. Mr. W. Herrod, F.E.S., judged the exhibits, and afterwards gave demonstrations in the bee-tent to large and interested audiences.

Twelve 1-*lb. Sections.*—1st, C. J. Burnett, Northampton; 2nd, H. England, Moulton; 3rd, C. Cox, Brampton; 4th, James Adams, West Haddon.

Twelve 1-*lb. Jars (Light) Extracted Honey.*—1st, James Adams; 2nd, Miss E. Adams, West Haddon; 3rd, C. J. Burnett; 4th, Geo. Hickman, Northampton; 5th, W. Manning, Northampton.

Six 1-*lb. Jars (Dark) Extracted Honey.*—1st, R. S. Askew, Odell, Beds; 2nd, C. J. Burnett; 3rd, J. Adams.

Six 1-*lb. Jars Granulated Honey.*—Equal 1st, J. Adams and G. Odell, Roade; 3rd, W. Manning.

Three Shallow-frames of Honey for Extracting.—1st, C. J. Burnett; 2nd, J. Adams.

Super of Comb-honey (Glass, or Wood and Glass).—1st, C. J. Burnett.

Beeswax.—Equal 1st, C. Wells, Oxendon, and G. Page, Holcot; 3rd, G. W. Odell; 4th, Mrs. Cox.

Six 1-*lb. Sections* (novices only).—1st, Mrs. C. J. Burnett; 2nd, R. S. Askew; 3rd, G. W. Kennedy, Odell, Beds.

Six 1-*lb. Jars (Light) Extracted Honey* (novices only).—1st, A. Hiscock, Loddington; 2nd, G. Odell; 3rd, G. Hickman.

Six 1-*lb. Jars (Dark) Extracted Honey* (novices only).—1st, J. S. Partridge, Wollaston; 2nd, G. W. Odell; 3rd, Mrs. Burnett.

SPECIAL PRIZES.

Single 1-*lb. Jar Extracted Honey* (open class).—1st, T. G. Hillier, Hurstbourne Tarrant, Andover; 2nd, W. Patchett, Cabourn, Caistor; 3rd, T. S. Holdsworth, Kirton Lindsey; 4th, H. W. Saunders, Thetford, Norfolk; 5th, G. M. Coles, Heythrop; h.c., Brown and Botham, Yorks; C. W. Dyer, Newbury; and S. G. S. Leigh, Hants.

Single 1-*lb. Jar Extracted Honey* (open class, Special).—1st, H. W. Saunders; 2nd, T. G. Hillier; 3rd, G. Odell; 4th, J. Adams; h.c., S. G. S. Leigh, W. Patchett, and W. Manning.

Honey-cake.—1st, Mrs. Burnett, Northampton; 2nd, Miss Clarke, Maidford; 3rd, Miss Burnett, Northampton; h.c., Mrs. Bubb, Bugbrooke.—ROBT. HEFFORD, Hon. Sec.

*** *Several show reports are held over for lack of space.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[6808.] With mid-August here we must now begin to lay the foundation of our next year's campaign among the bees. All supers should be removed from the hives, and what little saleable surplus there is in them should be secured and dealt with. This done, the condition of every stock must be ascertained by careful examination of stores in the combs, those requiring feeding up being marked for recognition. I fear this will in most apiaries mean that the bulk will need more or less syrup-food to ensure sufficient stores to carry them through the coming winter. I advise readers to make a note of the approximate quantity required for each hive, and give the syrup as rapidly as the bees will take it down. If they do this rapidly the bulk of the syrup will be stored and sealed, but if given slowly and by fits and starts a great part of the food will be consumed as fast as it is given, or be used in extending the brood-nest.

Where the bees have only put a few ounces of honey in unsealed sections, I recommend that this be left for the bees to clear out, which they will soon do if the sections are turned upside down and all wraps are taken off except one thin one. These partly-built-out sections are useful as "bait-combs," but I am bound to confess that in many hives this year the bait-combs (I usually give three of them in each first rack put on) were used as receptacles for drone-brood; at least, all the lower rows of cells were so used. I have in fact had more sections spoilt with brood this season than ever before in one year. This has been most exasperating, when my whole output has been so small compared with previous years.

But shall I use excluder-zinc another year? No, Mr. Editor, I won't, even to gain your smile. I shall place the bait-sections in about the same position as before, and hope for a better honey-flow. I attribute the broody sections of 1907 to the abnormal season. The little honey gathered by the bees was used in brood-production, there not being enough of it to fill supers with.

I remember many years ago a correspondent of the B.B.J. advocating spraying combs to remove pollen. I believe the combs so dealt with had first to be soaked in water and afterwards subjected to a continual spraying with the hose, care being taken that the pressure was not powerful enough to wash away the wax in the cells of the combs. In our district it is very rare to get brood-combs "pollen-clogged." For myself I may say, whenever a comb is observed to contain more pollen than I consider necessary, it is moved to the outside, either back or front of brood-nest. Then in the following spring (if weather permits) it is taken away, and a full sheet of foundation substituted, but in centre of brood-nest.—W. WOODLEY, Beedon, Newbury.

CRITICISM.

THE SEASON IN CUMBERLAND.

[6809.] *Criticism.*—Much notice has been taken of this subject lately in our journal. Some remarks of mine (6743, page 235) have been referred to as "unbrotherly" criticism of another's procedure, and as such giving pain to at least one reader. Let me now say that if my criticism has given pain to anyone in the sense meant by *seeming* unbrotherly, I am truly sorry. I have no wish to act in an unbrotherly manner to anyone, more especially to a brother bee-keeper.

But let us "quit ourselves like men" in these matters. If our opinions are offered to the world as patterns for others to go by, be it through your valuable paper or any other, we must be prepared to have them subjected to the criticism of those who hold a view different from our own—criticism which is quite likely to be of a more scathing character than we imagine is necessary. But let us take all such hard knocks "upstanding," and if they do sometimes "sting" treat them as all good bee-men treat their occasional stings, not as vindictive thrusts, but as hints that there is something amiss, and we have merited a sharp reminder by not exercising all the care we might do on the business we have in hand. The candid friend sometimes gives us pain, but is none the less a friend.

The Season in the North.—The season just drawing to a close has been very disappointing to most bee-keepers in this county. A large outlay on sugar in many instances has not been returned in surplus. One owner of forty stocks has got no honey after feeding nearly all the summer. In some districts a fair amount has been secured, but much of that is mixed with honey-dew. The sudden close of the honey-flow from white clover left a very large number of unfinished sections with me. No honey was stored in supers here till July 15, and after little more than a week of brilliant sunshine the splendid flow from white clover was over, just when most stocks were almost finishing second racks of sections. Three of my best stocks have since been finishing off these with extracted honey fed back. I use a "Miller" feeder for this purpose, thinning the honey slightly, and giving it as fast as the bees can take it. I went the other day to one of the hives thus employed in order to remove some finished sections, under which a "Porter" escape had been placed the previous evening. This was a very powerful colony, but to my surprise I found not only the section-racks, but the hive as well, almost emptied of bees. They had swarmed (on August 9), and were found shortly after hanging in a hedge some distance away. This swarm turned the scales at 10 lb.—the heaviest swarm I have ever had. The bees are well-marked hybrids, and on examination I found the queen-cells containing only just-hatched larvæ. Although the hive is now wedged up off the bottom board, and a third rack of sections has been given, the bees of the swarm (which was returned) hang out at the entrance. Stocks are in grand condition for the heather, which is just coming into bloom; but at the time of writing the weather, although warm, is very windy, with heavy showers. —G. W. Avery, Armathwaite, S.O., Cumberland, August 12.

REJUVENATING QUEENS.

]6810.] The hon. secretary of the Cumberland Bee-keepers' Association has been making some experiments regarding the vitality of queen-bees, with a result that, so far as I know, has been hitherto unnoticed. It seems probable, from these experiments, that a queen in her third or fourth year can recover her waning powers of egg-laying to an astonishing degree if she is given to another colony. A fortnight ago I saw a hive full of brood with a large population consisting almost entirely of vigorous bright yellow bees with narrow bands of black. Two weeks before I saw the hive it had contained a queenless colony of native bees. Mr. Avery had no young fertile queen ready, and, in order that the stock should not be left motherless, he gave it from another colony a queen which he had intended to kill on account of being worn out with old gae. This queen would now be remarkable in any apiary for her prolificness.—E. M. Rix, Carlisle, August 12.

[Not having heard anything from Mr. Avery himself so far with regard to the "experiments" he has been making, we venture to think the extraordinary result given above has not been definitely confirmed by himself. It is as contrary to science as it is to common-sense to suppose that, after the ovaries of a queen-bee are exhausted by the effluxion of time, the simple change of home can rejuvenate the aged mother-bee and refill her ovaries; or, to put it plainly, make a young girl of an old woman.—Eds.]

FOUL BROOD AND DRIVEN BEES.

[6811.] An error has crept into my letter (6801, page 314) in last week's B.B.J. The paragraph on renewing combs gives the impression that I have to keep my apiary going by driving other people's bees. This, however, is not the case. I simply drive my own. My plan is not to let my bees swarm, and any losses are replaced by buying bees else-

where. What I wish to impress on readers is the fact that very good honey-yields are obtainable on my system. Thus the only loss foul brood causes me is the trouble of driving annually, and, of course, taking measures to stop the spread of disease in the season.—W. J. FARMER, Redruth.

BEE-KEEPING IN MEXICO.

AN ENGLISHMAN'S EXPERIENCES.

[6812.] In reply to your postcard dated April 7, advising me of the request of our respected Editor for my experience with English bees in Mexico, permit me to say that, as I am a thorough ignoramus in scientific bee-keeping, having only arrived at a knowledge of my own ignorance in the matter, I feel that my little experience will be uninteresting, but, such as it is, I gladly respond to his flattering invitation.

First let me say that, in order to form a correct opinion of the conditions of bee-keeping in this "land of cactus, rock, and thorn," a knowledge of the climate and locality is absolutely necessary. As regards the former, the thermometer ranges from 32 deg. Fahr. before sunrise on some few mornings from November to March to 110 deg. in the cool, dense shade of the orange-trees at from 12 to 3 p.m., falling at daybreak to 75 deg. or 80 deg., from the middle of April to the commencement of the rainy season at the end of June. From this to September, when the rains cease, we have a lower thermometer, but the damp, suffocating heat of the tropics.

With respect to locality, we are on the bank of the River Chinipas, 1,400 ft. above the level of the sea, in the Gulf of California, surrounded by mountains on all sides, rising to 4,500 ft. above sea-level, whose summits are not more than from one to two miles in a horizontal line from the river, the width of which varies from 60 ft. (where boxed in by precipices on either side) to 1,000 ft. where the mountains retire, and in the latter position is situated this village. During a flood the river covers the latter distance, and on the water receding leaves a bed of boulders and gravel, the stream diminishing until, as at the present time, one may walk across dry-shod in places, no rain having fallen since January 18. These local conditions influence the climate and the bees as much as the direct heat of the sun. As the dry, hot season approaches the whole exposed river-bed gets so hot that from 11 a.m. to 5 p.m. it is impossible to pick up and hold in the bare hand a stone of, say, 5 lb. weight. The bare rocks on the mountain-sides and precipices also absorb heat, and, as a natural result, the heated air rises and forms a partial vacuum, to fill which air rushes down the river-gorge with almost hurricane violence from the high Sierra Madre, where the river takes its rise; but this air has no cooling effect. It arrives at about the temperature, as far as I can remember, of a "hot wind" in Australia, or 150 deg.; hence in a cool shade the thermometer stands at 110 deg., as I have mentioned.

I now copy from my bee-diary:—

After losing two colonies through that scourge the wax-moth, I commenced keeping the stock I have on November 9, 1905, with a late cast of barely a tumblerful of bees, sent me in a candle-box. I bored a half-inch hole in the top of the box, and, in a tray, fed them with half sugar and half water, as per your "Guide-Book," covering the tray with a shallow box. I then thickly covered the brood-box on all sides and on the top with woollen cloths fitting close, and fed the bees regularly every day at sundown with half a tumblerful of syrup.

December 1.—Robbers came, black and very shiny; contracted entrance, and they desisted.

April 1, 1906.—Found box full of crooked comb, and placed it on the top of a frame-hive, with 4-in. starters of "Weed" foundation for the bees to transfer themselves.

April 16.—First drones seen.

April 29.—Bees building in frame-hive, but no brood.

May 12.—Tried to get bees out of box, but would not leave, so suppose queen was still there, and being afraid of losing or killing her if I tore out the combs and brushed the bees off them, I put the box on the top of a framed super with starters, set on frame-hive.

July 2.—Found bees had transferred themselves and filled old combs with honey. Mashed up comb, and obtained 30 lb. of strained honey, very thick and dark in colour.

August 8.—Found super three-parts full of comb, some sealed. Lifted it, and placed No. 2 super, with starters, in its place, and set No. 1 super on the top of No. 2. But little honey coming in, I commenced feeding daily, and bees began comb-building in earnest.

September 9.—Found wax-moth grub, ¾ in. long, on alighting-board, dead; overhauled hive, but met with no more traces.

October 1, 7, and 9.—Put "Alley" drone-trap before entrance and caught 480 drones.

October 24.—Took away super No. 1, nearly full of comb and a little sealed honey, and stored it in house. Found super No. 2 had six sealed combs and others with honey, all of which I left on hive for the winter.

November 1. — Hive badly attacked by robbers, and myself also; a general fight all round; closed entrance to two bee-spaces wide by ¼ in. high; made a robber-trap, in

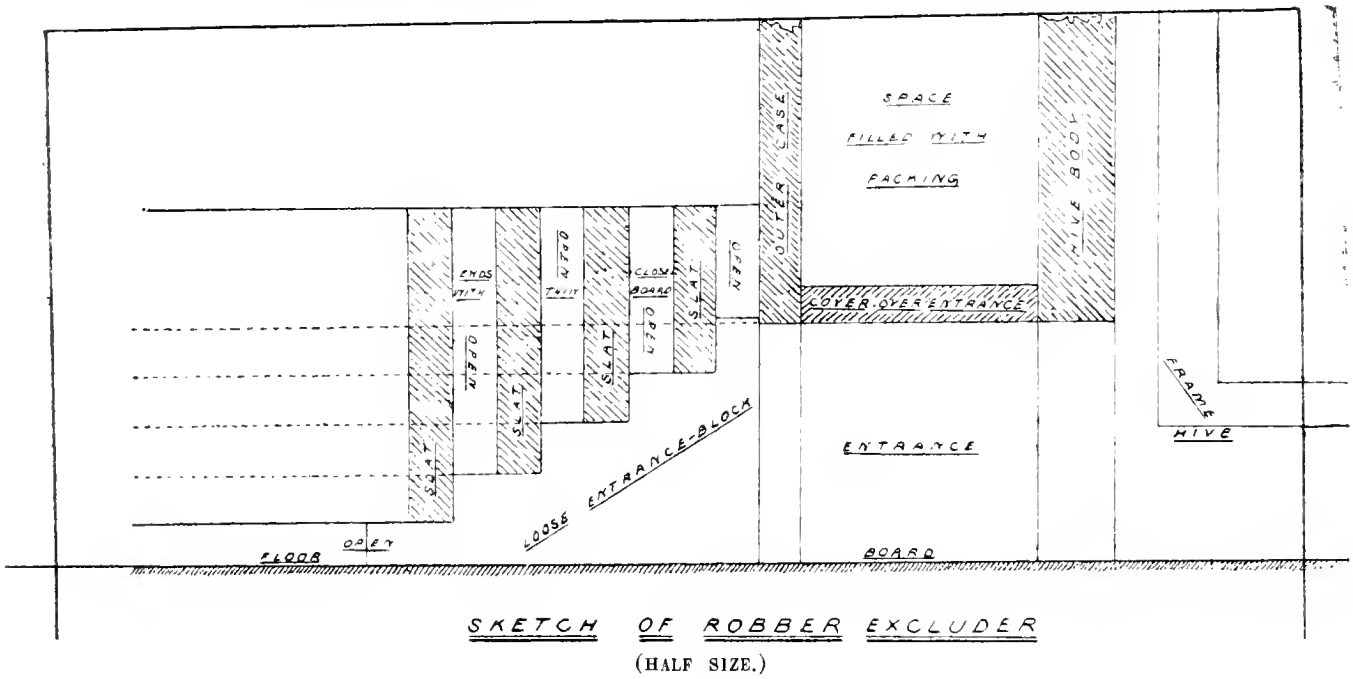
which I caught about a pint, when they ceased. Having made the cover of the super gable-ended, with a conical wire bee-escape in the apex, I made a box of thin wood, 8 in. wide by 2½ in. deep by 14 in. long, also gabled, and covered the top with wire-cloth. In one gable I bored a 1½-in. hole, which came exactly opposite the wire cone, which latter I took out, and wedged the trap bee-tight against the gable of the cover, and, after pushing in from the outside a small piece of bait-comb, pushed in the wire cone the reverse way. The effect was as I anticipated. The robbers soon found a way in, and kept at it part of the next day, and on the fourth day all were dead. On carefully watching, I noticed that the bees from the hive did not enter the trap.

November 9.—Looked into super, and found bees not adding much honey.

January 1, 1907.—Stopped feeding.

except on two outside combs, each of which had a small patch of drone-comb, from which drones were emerging. I then shook the bees off some combs on to an extended alighting-board, but this also proved useless, as the bees ran into the hive in a solid mass—two or three on the top of one—and by this time the air was so full of bees that I could scarcely see, although it was 8.30 a.m., when the majority were away. Being afraid to lose the queen, I put all back into the hive as quietly as possible without getting a single sting—and I never wear gloves. I then cut the combs out of the super removed, leaving half an inch of dripping combs under the top-bars, and placed these in a new super on the hive; on the top of this placed the super, with combs and honey, which I had taken away and stored on October 24.

March 11.—Inspected upper super, and found it being filled with honey.



SKETCH OF ROBBER EXCLUDER

(HALF SIZE.)

January 20.—Found wax-moth grub, ¾ in. long, dead on hive-board. Looked over brood, but found no more traces of the pest.

February 14.—Many drones flying.

February 20.—Found super full of sealed comb; put on "Porter" bee-escape in the evening, which answered admirably, as on the following morning only twenty drones and two workers remained.

February 21.—After taking off the super, which yielded 45 lb. of strained honey, I endeavoured to find the queen or queen-cells in the hive, which consists of thirteen frames, 15 in. by 8 in. in the clear, the supers containing the same number, but only 15 in. by 6¼ in. in the clear. I lifted the frames one by one and stood them on a board, but they were covered so thickly on both sides with bees, about three thick, and so closely packed together, that I could not even see any comb in a single place

March 23.—Inspected upper super, and found comb not all sealed.

April 2.—Found upper super full of sealed comb to bottom-bars, and put on "Porter" bee-escape in the evening.

April 3.—Took off upper super, and found lower super equally full, and, after removing to one side, placed new super, with dripping frames, on hive, and, with "Porter" bee-escape beneath, placed full super on the top of escape.

April 4.—Took off this super, and obtained 113 lb. of strained lemon-coloured honey from the two supers, leaving several pounds of honey mixed with the wax, which I was unable to squeeze out. In the super that stood on the hive several cells were filled with pollen and sealed. Put new super, with dripping starters, on super placed on hive yesterday.

May 22.—Inspected both supers, and found them filling with comb and honey.

The preceding is extracted from my notes, made whenever I meddle with the bees.

All the appliances I have are a small smoker, a veil, an "Alley" drone-trap, and a "Porter" bee-escape. The hives, supers, frames, covers, and outer-cases I have had to make out of old packing-cases in my spare time.

Of books, I have the "A B C of Bee-culture" and your valuable "British Bee-keeper's Guide Book." I also get *Gleanings* and the BRITISH BEE JOURNAL, which latter I much appreciate, as it is not padded with chickens, corn, and potatoes, &c., while it contains no pharisaical and very personal remarks objecting to one's smoking his pipe or drinking a glass of beer. It also reminds me of Old England, seen only three times since 1852.

My observations have been as follow:—Although the bees fly the whole year round and collect stores, the honey season may be said to commence with the orange blossom at the end of January, followed by the flowering of the lemon, lime, and citron until the end of February, when various forest trees come into bloom, followed by the guava, which grows wild (although not a native fruit) in the deep ravines, and affords a large amount of pollen, but little, if any, honey; after this come pumpkins and melons.—FRANK W. BREACH, Chinipas, Chihuahua, Mexico, June 25.

(*Conclusion next week.*)

JULY RAINFALL.

Total fall, 4.72 in.

Heaviest fall in 24 hours, 1.89 in. on 21st.

Rain fell on 20 days.

W. HEAD, Brilley, Herefordshire.

WEATHER REPORT.

WESTBOURNE, SUSSEX.

July, 1907.

Rainfall, 1·54 in.
Heaviest fall, ·57 on 3rd.
Rain fell on 15 days.
Below average, ·94 in.
Sunshine, 223·2 hours.
Brightest day, 17th, 14·9 hours.
Sunless days, 2.
Below average, 11·3 hours.
Maximum temperature, 76° on 16th.
Minimum temperature, 42° on 11th.
Frosty nights, 0.
Mean maximum, 64·8.
Mean minimum, 50·1.
Mean temperature, 57·4.
Below average, 3·1.
Maximum barometer, 30·459 on 11th.
Minimum barometer, 29·638 on 30th.

L. B. BIRKETT.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Wax-moth (page 263).—Very few evils are unmixed, and it may very well be true that even the wax-moth is of value to us. Sooner or later every untended skep, from which the bees have died through disease, becomes cleared of comb by their efforts and ceases to be a source of infection. So with wild swarms in buildings or trees, the erstwhile combs become a mass of web which must, if the location is to be used again, be cleaned out by the bees before the natural hive becomes habitable.

Mixed Goods.—Of other so-called pests, wasps do an enormous amount of good in the number of caterpillars they destroy, and indirectly bee-keepers must benefit. The depredations of the largest wasps upon hive-bees may be minimised by the use of excluder-zinc porches, or swarm-catchers.

Even cockroaches are of use as scavengers, but they are very bad comb-destroyers. I am sure that some of their sins have been attributed to mice from time to time. I use Keating's powder in all my store-boxes.

Saving Combs from Moth (page 266).—Where an attic or other small room or cupboard can be utilised for the storage of spare combs, they may be fumigated at intervals with the certainty that any grubs which have hatched will be destroyed. Two fumigations practically ensure their safety. A great point in their preservation from attack is that the combs shall be spaced apart, and the light allowed to pass through. Two combs in juxtaposition will catch all the wandering wax-moths.

Quilts (page 267).—It should be remembered that the American system provides a cover immediately over the frames, either with or without bee-space. Flat covers are used, which the bees are allowed to seal to the hive. This accounts for the discarding of the quilt, which is to us an essential piece of hive-furniture. All the same, a quilt would be a convenience for manipulation even with the American type of hive.

Caucasian Bees (page 272).—Will anyone who has actually tried these bees tell us all about them? Reports are so conflicting, and in some cases may come from persons interested in their introduction, that it is very difficult to arrive at even the medium of truth. May we have a "caucus" of opinion on the subject?

By the way, can anyone tell us what has become of Mr. Frank Benton? The last heard of him was that he had, as the accredited representative of the U.S. Government, shipped Caucasian bees to Switzerland, and had discovered an even

superior race. Now he appears to be superseded, or no longer pursuing the quest which was announced with such a flourish.

Capacity of Standard Frames (page 286).—If the frame be spaced 1½ in. from its neighbours, centre to centre, the thickness, allowing for one bee-way per comb, will be about 1¼ in. Such a comb, when entirely filled, would weigh about 5¼ lb. But 5 lb. per comb for a super of such extracting combs would be a decidedly good average.

Queen-cell over Excluder (page 286).—This did not perhaps necessarily indicate a desire to swarm, as suggested, but rather a mistaken intention of the bees to supersede the queen, as a direct result of the manipulation detailed. The destruction of this cell probably disposed of as fine a queen as could be obtained by any other method. This is, in fact, a part of the well-known Doolittle system of obtaining queen-cells.

Bees Removing Larvæ (page 287).—Yes, of course they will! And dead bees, and bits of stick, and, indeed, anything to which they strongly object. There is hardly any limit to their powers in this respect. Why, one removed me to a safe distance from the hive-entrance not long since, and with, so far as I could judge, no difficulty! The fact that the bees removed larvæ, probably chilled, from an unsuitable place, hardly warrants the deduction that they put them to bed in the skep below!.

Queries and Replies.

[3569.] *Adding Swarms to Weak Stocks.*—I am an amateur in bee-keeping, having succeeded to the ownership of an apiary which consists of four frame-hives and four skeps. Last season I refilled two of the frame-hives by giving them ten frames each, with full sheets of foundation. In early spring they both looked very promising, but since then the bees have dwindled, and there is very little brood now showing in the combs. Two frames in each hive have unfinished combs in them, but the bees are abundantly supplied with food. I therefore ask: 1. Should I strengthen these weak stocks by adding to them the first two swarms that issue from the other hives, and then put a rack of sections on each stock? Also 2. Would the best plan of putting in the swarms be to lift out three middle frames, and shake the bees in from the top? I adopted that plan last year, but the hives were then empty. Swarming does not begin here till late in July. 3. Is there an Aberdeenshire Bee-keepers' Association? An early answer will oblige.—Ella Schanke, Ellon, Aberdeenshire.

Reply.—1. On no account should the expected swarms be added to the weak stocks now in frame-hives without first ascertaining if the cause of weakness is disease. The first thing to do, therefore, will be to find out if the bees that need strengthening are perfectly healthy. If not, hive the swarms as new colonies in clean hives. 2. When uniting swarms to stocks in frame-hives, remove part of the combs from the latter, and space the remainder wide apart; dust the bees on all combs with flour from a dredger, then dust the swarm in the same way, and throw out the bees on the spaced-out frames, cover down with a good-sized quilt, and allow them to settle down, taking care that the swarm is kept below the top-bars of brood-chamber. 3. We do not know if there is a Bee-keepers' Association in your county.

[3570.] *Curious Effect of Bee-sting.*—1. Could you kindly explain how it happens that the drone-brood and queen-cell on frame of comb sent come to be in a stock which swarmed on June 9 last, and failed to requeen itself? 2. Also, can you account for the fact that Mr. Roche, the owner of the said stock, while examining the hive in search of a queen, was seized with a violent fit of sneezing, which continued until his throat began to swell, and breathing eventually became so difficult that a doctor had to be sent for, who ordered hot fomentation, ices, and inhalations to allay the pain? The medical man said if the inflammation had gone further down his throat it might have cost him his life.—John Carey, Bidston, Cheshire.

Reply.—1. The few cells on lower edge of comb on frame of comb sent which contain drone-brood are in normal condition, as in the single queen-cell in centre at bottom of the comb; but the larva in latter would never have come to anything, being aborted. 2. From the details given, we are led to think that during the uncontrollable fit of sneezing with which your friend was seized, a bee must have stung him in the throat without his being conscious of the fact, and the subsequent swelling caused the difficulty in breathing. In no other way can we account for the serious effects which followed.

Bee Shows to Come.

August 21, at Lancaster.—Show of Honey, &c., in connection with the Lancaster Agricultural Society's Annual Show. **Entries closed.**

August 21, at Radstock.—Annual Show of the Somersetshire B.K.A., in connection with the Radstock Horticultural Association. **Entries closed.**

August 21 and 22, at Shrewsbury.—Shropshire B.K.A. Annual Show, in connection with the Shropshire Horticultural Societies' Great Floral Fête, in the Quarry, Shrewsbury. Nine Open classes for Honey and Wax. Free entry for single 1 lb. jar and single 1 lb. section. Schedules from S. Cartwright, Hon. Sec., Shawbury, Shrewsbury. **Entries close August 17.**

August 27, at Cartmel, Lancashire.—Honey Show in connection with the Cartmel Agricultural Society. Open classes for Sections, Extracted Honey, and Beeswax. Local classes for Sections and Extracted Honey. **Entries closed.**

August 28, at Chester (Cheshire Agricultural Society's Show).—Bee and Honey Department, under management of the C.B.K.A. Open classes for Hives, Sections, and Extracted Honey. **Entries closed.**

August 28 and 29, at Rugby (Warwickshire B.K.A.).—Show of Honey and Bee Appliances, in connection with the Annual Show of the Warwickshire Agricultural Society. Schedules from Jas. N. Bower, Hon. Sec. Warwicks. B.K.A., Knowle.

August 28 and 29, at Osmaston Park, Derby.—Annual Show of the Derbyshire B.K.A. Increased prizes. Reduced entry fees. Schedules now ready. Apply, R. H. Coltman, Secretary, 49, Station-street, Burton-on-Trent.

September 4, at Conder Green, Lancaster.—Honey Show, in connection with Horticultural and Agricultural Exhibition. Open and County Classes. Apply, T. Walmsley, Hon. Sec., Conder Green, Lancaster.

September 5, 6, and 7, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-five Classes (nine open to all). Increased prizes and medals. Schedules from F. B. White, Secretary, Marden House, Redhill, Surrey. **Entries close August 22.**

September 7, at Bramhall, Stockport.—In the grounds of the Bramhall Hall, by permission of C. H. Nevill, Esq., Honey Show in connection with the District Horticultural Society. Low entrance fees. Three Open Classes, with liberal prizes. Schedules from J. Sibson, Bramhall, Stockport. **Entries close August 31.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Trades' Fifteenth Annual Exhibition and Market. (See large advertisement on page iii.) **Open to all British Bee-keepers.** Entry fee in each class 1s. Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 12, at Castle Douglas (South of Scotland B.K.A.).—Exhibition of Honey and Wax in connection with the Dairy Show at Castle Douglas. Five Open Classes; Three Bottles Run (20s., 12s., and 6s.); Three Sections (15s., 10s., and 5s.); One Bottle (4s., 2s., 1s.); One Section (4s., 2s., and 1s.); Wax (5s., 3s., and 2s.). Schedules from Q. Aird, Hardgate School House, Dalbeattie, N.B. **Entries close August 31.**

September 13, at Conway, N. Wales.—Annual Honey Show, in connection with the Conway Honey Fair. Open and Local Classes. Schedules from J. Hughes, Town Hall, Conway. **Entries close September 6.**

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the Fifteenth Annual Exhibition and Market of the Grocery and Kindred Trades. Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 25, at Altrincham.—Honey Show, in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. Classes for Trophy of Honey, for Best Hive, Observatory Hive with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester: Amateur-Built Hive, two Shallow Bars, Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low Entrance Fees. Schedules from Mr. J. Herbert Hall, 2, Dunham-road, Altrincham. **Entries close September 7.**

October 17 to 26, at Waverley Market, Edinburgh.—Honey show in connection with the Eleventh Annual Edinburgh and Midlothian Industrial Exhibition. All open classes. Beautifully illustrated prospectus, price 2d., from A. Hutchinson, 15, Leith-street, Edinburgh. **Entries close October 3.**

Notices to Correspondents.

A. W. Smith (Milton of Campsie, N.B.).—*Keeping Bees and Pigs.*—There is no reason why bees may not be kept in a place where pigs are fed and bred, so long as there is plenty of room between the apiary and the piggery. The "Guide Book," obtainable from this office, will keep you posted on bee-matters, and your friend is correct in saying that a book on practical pig-keeping (price 1s. 2d., post free) is published by Mr. L. Upcott Gill, Bazaar Buildings, Drury Lane, E.C.

M. M. (Sale, Cheshire).—*Bee-terms, "Skep" or "Skip"?* — The words are synonymous, both words having precisely the same meaning, viz., a straw skep or bee-hive. "Skip" is incorrect, and is only so spelt by uneducated persons.

Lane Park (Yorks) and W. B. Barber (Evercreech).—*Drone-brood Cast Out.*—There is no cause for alarm in a few drones (in chrysalid form) being cast out in such weather as is now being experienced in this country.

Robin (Penistone).—*Robbing.*—1. Bees sent are the ordinary natives. The precautions for guarding against the trouble you complain of have been extended in the latest edition of the "Guide Book," and comprise all that can be said on the subject. 2. We should reduce the number of sections before sending the bees to the moors to as many as they may reasonably be expected to fill, according to the condition of the weather.

S. Harris (Aberfeldy).—*"Balled" Queen.*—The appearance of dead queen obviously points to it being a case of "balling," all pubescence—or hairiness—having disappeared. The queen is young, and apparently a virgin. It is more than probable that she may have been just mated, and that the disturbance made when examining the frames has caused the bees to "ball" her.

E. R. (Surrey).—*Heather for Bees.*—The sprig of heath sent is the best kind for bees, viz., *Calluna vulgaris*, or common ling (see illustrations in new edition of "Guide Book").

A. W. C. (York).—*Surplus Queens.*—Much obliged for your thoughtfulness in sending young queen-bee. Unfortunately it was dead on arrival, or we should have been able to find her a home.

Honey Samples.

J. C. (Blackheath, S.E.).—Your honey is very fair in quality, mainly from clover; but the "field of scarlet runner-beans" mentioned as growing near has deteriorated its quality perceptibly.

E. J. Forster (Horwich). — Sample is poor in quality, and is fermenting. We regard it not as English, but foreign, honey.

W. F. Trineman (Saltash). — Sample is good in quality, the colour and consistency being very nice. It is, we think, a mixture of clover and raspberry honey.

Some Letters, Queries, &c., are unavoidably held over till next week.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

STOCKS, SWARMS, NUCLEI, AND QUEENS, as previously; 3-frame Nucleus, 9s. 6d.; imported Italian Queens, 5s. 6d.; British, 3s. 6d.—WOODHAM, Clavering, Newport, Essex. b 30

WANTED, Bees or Honey. Exchange 1,000-shot air gun. — BURDEN, S. Farnborough, Hants. b 25

DRIVEN BEES, 1s. 3d. lb., with Fertile Queens; 56 lb. for disposal.—WITHYCOMBE, Bee Expert, Bridgwater. b 34

HEALTHY DRIVEN BEES, extra good lots, 5s. per lot, cases free. Put on rail same day order received. A good laying Queen sent with each lot.—W. D. T. RICHARDS, Postman, Kingswinford, Dudley. b 28

BEES, with Queen, on eight frames, 15s. (six lots); also four good healthy Skeps, 10s. 6d. each.—IVE BOUGHTON, Ollerton, Newark. b 26

WANTED, SIMMINS'S "CONQUEROR" HIVES, secondhand. — HULBERT, 16, Manor-place, Paddington, W.

FOR SALE, Prairie State Incubator, used six times, 75-egg capacity, hot air, £2, cost £4; also Tamlin's Green Bone Cutter, good condition, £1.—MARTORELL, Brooklea, Exeter-road, Exmouth, Devonshire. b 20

FOR SALE, Colonial Knitting Machine, £4. Would exchange for Bee Appliances.—BUCKLAND, Crescent-road, Elmfield, Ryde, I.W. b 24

Special Prepaid Advertisements.—*Continued.*

FOR SALE, SMALL APIARY, twelve stocks, mostly "W.B.C." hives, interchangeable, and young queens, all healthy. Description and photo on application.—"HANTS BEE," c/o B.B.J. Office. b 22

BEES, in Hives, 20s. and 27s. 6d.; 3-Frame Nucleus, 10s.; Driven Bees, 5s., delivered; Fertile Queens, 2s. 4d.—HANNAM, Highgate-road, Birmingham. b 32

COMBS REPAIRED, and Foundation Prevented Stretching, by using "Nondescript" device. Sample set, P.O. 1s. 1d. — W. PALMER, Gate House, Maghull, Liverpool. b 31

15TH YEAR.—Healthy Driven Bees, with young fertile Queens, 5s.; 1907 Tested Queens, 2s. 6d. Customer writes:—"The driven bees I had of you last year have done excellently."—SOLE, Expert, Poplar-grove, New Malden. b 23

FANTAILS.—What offers in Bee Appliances? Take Honey Extractor.—SUTTON, Maes Geiniog, Holyhead. b 33

MUST BE SOLD.—3-gross Crates of Screw-cap lb. Jars, with cork wads and hard caps, 12s. 6d. gross; "W.B.C." Hives (21s.), 16s. each; ditto, in flat, but without section-rack, 12s. 6d. each, 144s. dozen.—SHEPHERD'S BEE STORES, 478, Stockport-road, Manchester. b 29

TWO NEARLY NEW HIVES, and everything connected, for sale, cheap.—METCALFE, United College, Bradford. b 35

FOR DISPOSAL, the whole of my Apiary, containing bee-houses, hives, bees, and all appliances.—W. STANDRING, 56, Central-drive, Blackpool. b 21

FOR SALE, few strong Stocks of Bees, Frames wired, good hives; also 28 lb. tins Honey; sample 2d.—SOFTLY, Harlow, Essex. a 90

WANTED, Honey in Sections.—Quote price delivered to THE TODDINGTON ORCHARD CO., Winchcombe, S.O., Glos.

DRIVEN BEES, strong healthy lots, with 1907 fertile Queens, 5s. lot.—THOMAS BRADFORD, Expert, 21, Little Park-street, Worcester. a 89

FOR SALE, quantity of good Shallow Frame Combs, 5s. per doz.; also a few Section Combs, 2s. 6d. per doz.—SMITH, The Apiary, Woodmancote, Cirencester. b 7

BEST LIGHT CLOVER ENGLISH RUN HONEY, in any quantity, required by the BATH AND SOMERSETSHIRE DAIRY CO., LTD., Bladud Buildings, Bath, 48s. per cwt., free on rail. Send small sample. b 15

250 LOTS DRIVEN BEES, 5s., good lots, in boxes, free on rail.—GREAT BEE FARM, Whitchurch, Hants. b 5

HEALTHY DRIVEN BEES, ready middle August, 3s. 6d. per lot, or 1s. 3d. per lb.; not less than 4 lb. lots; orders cash, delivered rotation; boxes returnable.—H. C. SMITH, The Apiary, Woodmancote, near Cirencester. a 92

HEALTHY DRIVEN BEES, with Queen, 5s. per lot; boxes returnable; spare Queens, 2s. 6d. each; tenth season.—A. R. MORETON, Bee Expert, Hallow, Worcester. a 94

BEAUTIFUL Young Fertile Golden Queens, 4s. each.—O. KNIGHT, Epney, Stonehouse, Glos. a 83

HEALTHY DRIVEN BEES WANTED, in 4, 6, or 8-lb. lots, first and second week in August; will give 1s. per lb., provide travelling boxes, and pay carriage. Cash by return post after receipt of bees.—J. BALMBRA, East Parade, Alnwick. a 76

31ST YEAR.—Healthy Driven Bees, 5s. 6d., cases free.—ALSFORD, "Expert," Haydon, Sherborne. a 52

Special Prepaid Advertisements.—*Continued.*

FOR SALE, 500 Young Fertile Pure Carniolan Queens, 4s. each; also 500 Young Fertile Caucasian Queens, 7s. each; cash with order.—HAUNSCHILD, Weissbach-by-Pulsnitz, Saxony.

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

WANTED, for Scientific purposes, DEAD QUEEN BEES, and WORKER HORNETS. Will brother Bee-keepers oblige?—HERROD, Apiary, Luton.

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester.

SECTION GLAZING.—Best quality neat patterns in lace paper, made especially to my order (not common thin box edging). White, 1in. wide, 100 6d., 500 2s. 3d.; Pink, Green, Blue, 100 7d, 500 2s. 6d.; Lace Bands, White, 2⅞, 3, and 3½ in. wide, 100 1s. 3d., 500 4s. 6d.; Pink and Pale-blue, 100 1s. 6d., 500 6s. Cash with order; post free.—W. WOODLEY, Beedon, Newbury.

HEALTHY DRIVEN BEES, commencing August 1, 3s. 6d. per lot, with Queens; boxes to be returned; orders rotation. Cash with order. T. PULLEN, Ramsbury, Hungerford. a 34

WANTED, New Sections, first quality; prompt cash.—W. CHILTON, Southdown Apiaries, Polegate, Sussex. a 33

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw-cap jars, 77s. gross, 21s. ¼ gross; ½ lb. ditto, 45s. gross, 13s. ¼ gross; Honey in bulk, 48s. cwt.; samples, carriage paid, 8d. Further prices and particulars on application.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 74

HONEY JARS.—We have contracted largely for special well-finished machine-made screw-top jars, each washed and wrapped in paper, complete, with caps and cork wads, 15s. 6d. gross, 43s. 3 gross; ½ lb., 12s. 6d. gross, 37s. 3 gross.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 75

BRICE'S 1907 HYBRID QUEENS, tested, 5s. 6d.; Virgins, 3s.; safe arrival guaranteed.—HENRY BRICE, Brigstock-road, Thornton Heath. a 13

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

"COME TO CANADA."

$7,000 will buy Profitable Wholesale Honey Business, well established, with unlimited expansion. Honey building 75 ft. long; capacity of bottling room 2,500 lb. a day; fine packing-room. Also fine brick house, large stable, and nearly 9 acres of the best of land, with seventeen different kinds of apples; fine shade trees and hedges. A lovely home in the best location in a nice village of 1,200 inhabitants. Also the home apiary and three out apiaries, of over 300 colonies, and about 500 hives. Can add to revenue by keeping cows and growing strawberries. Good reasons for selling.

G. A. DEADMAN, Brussels, Huron Co., Ontario, Canada.

DON'T GET STUNG,

when by using **APIFUGE** you can easily prevent it.

APIFUGE will also be found extremely useful to travellers in foreign countries where insect pests abound. Bottles, 1/- post free.

S. E. GRIMSHAW, 4, Reginald Place Chapeltown, LEEDS.

Editorial, Notices, &c.

REVIEWS.

Bee-culture. By Isaac Hopkins. (Bulletin No. 18, published by the New Zealand Department of Agriculture, Wellington.)—The writer of this bulletin is the author of "The Australasian Bee Manual," and was for some time editor of the *New Zealand and Australian Bee Journal.* As instructor of bee-keeping, he finds that this has so rapidly increased that the demand for information is greater than he can supply by correspondence, hence it was necessary that the subject be fully dealt with in a bulletin. In the thirty-four pages he has endeavoured to explain as completely as possible every point of importance to beginners. The pamphlet is very fully illustrated, and contains full-page photos of the model apiary at the New Zealand International Exhibition, and one at the Government Experimental Farm, Ruakura. Full detailed plans are given of a honey-house such as is used at the State apiary. The advice given is practical, and the hive recommended is the "Langstroth." In the article on "Bee-keeping Literature" the author mentions several standard books, with their prices attached; but he has made a mistake as to the cost of "The British Bee-keeper's Guide Book," which he puts at 5s., as the book is supplied post free to the Colonies for 1s. 9d.

Bees for Pleasure and Profit. By G. Gordon Samson. (London: Crosby Lockwood and Son. 1s. net.)—This is the third edition of a handbook published in 1892. It is intended as a guide to the manipulation of bees, the production of honey, and the general management of the apiary. The author is now living in South Africa, and has added a chapter on bee-keeping in our Colonies and in hot climates which should be useful to those residing in such countries. On page 14 he describes the two varieties of South African honey-bee, the one a small, darkish bee in the Karoo and higher parts of the inland districts, which, although an excellent honey-gatherer, is very fierce. Along the coast-line another variety is met with, larger than the Karoo bee, but smaller than the Ligurian. The workers have a dark orange band on the abdomen, which is covered with light grey hairs. The bees are good honey-gatherers, queens prolific, and the author has found them the gentlest bees to handle. On losing a queen, they produce fertile workers within a few days. It is a pity that in the revision obsolete appliances and methods have not been eliminated. No practical bee-keeper now uses the zigzag entrances described on page 19 or the heavy metal ends shown on page 18. The phenol treatment of foul brood described on page 80 has also long ago been given up, naphthol beta having taken its place as being simpler and more reliable. This book of ninety-four pages is neatly got-up in a red cover.

Bulbs. By S. Arnott, F.R.H.S. (London: Agricultural and Horticultural Association. Price 1d.)—This is the eleventh of the series of "One & All" garden books, edited by E. O. Greening, F.R.H.S. The writer is a well-known expert on bulb-growing, and is the author of "The Book of Bulbs"; therefore this cheap and comprehensive handbook of bulbs grown in our gardens will probably have a wide welcome. The editor has added attractive illustrations and a final advice to amateurs: Do not waste your bulbs. He points out how to make the most of them after they have done blooming.

Forcing the Breeding Queen to Lay Eggs in Artificial Queen-cups. By "Swarthmore."—This pamphlet is the sixth in a series of papers on apiculture by E. L. Pratt, who in the twenty-five pages explains his method of getting the eggs ready placed by the breeding mother in artificial cups for the purpose of cell-getting, and so save the trouble of grafting by the slow and tedious hand method of lifting each individual larva from the worker-cell into a queen-cup.

WORCESTERSHIRE B.K.A.

ANNUAL SHOW.

The annual show of the W.B.K.A. was held on Thursday, August 8, at Madresfield, in connection with the Madresfield Agricultural and Horticultural Show.

The weather was all that could be desired, and the beautiful gardens being open to the public, a great many visitors from the surrounding district were attracted to Madresfield.

Demonstrations in bee-driving were given by the County Council lecturer (Rev. E. Davenport), and were well attended.

The entries were less numerous than last year, especially in the classes for comb-honey, which goes to show that the season in this county has been anything but satisfactory from a bee-keeper's point of view; in fact, Mr. Davenport was heard to say it was the worst season he had known in his fifty years' experience as a bee-keeper.

Dr. E. Walpole-Simmons, Worcester, was appointed judge by the B.B.K.A., and made the following awards:—

Complete Hive Made by Exhibitor.—1st, G. Richings, Worcester; 2nd, T. Rouse, Tenbury.

Twelve 1-lb. Sections.—3rd, C. H. Haynes, Hanley Castle (no other award).

Six 1-lb. Sections.—1st, C. H. Haynes; 2nd, A. Firkins, Colwall; 3rd, A. R. Moreton, Hallow.

Twelve 1-lb. Jars Extracted Honey (open).—1st, W. E. Hyde, Ledbury; 2nd, T. Rouse; 3rd, G. Richings.

Six 1-lb. Jars Light or Medium Coloured Extracted Honey.—1st, W. E. Hyde; 2nd, G. Richings; 3rd, John Toombs, Ledbury.

Six 1-lb. Jars Dark Extracted Honey.—1st, G. Richings; 2nd, T. Rouse; 3rd, John Toombs.

One Shallow-frame of Honey for Extracting.—1st, T. Rouse; 2nd, John Toombs.

Beeswax (not less than 1 lb.).—1st, J. Price, Old Hill; 2nd, T. Rouse; 3rd, G. Richings.—G. Richings, Assist. Hon. Sec., Worcester.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

PROPOLIS.

[6813.] The derivation of this word prō-polis ("before the city," as the Greek term means) would indicate that it should be pronounced with an emphasis on, and broad expression of, the syllable, but in general it is spoken of as prŏp-olis, and I would vote for a short and sharp enunciation of each of the three syllables. In a work dated so recently as 1880 it is strenuously asserted that, like wax, it is an "elaborated" substance, instead of a natural vegetable product, as we know now beyond question that it is.

Soon after the hiving of a new swarm, after much disturbance of the quilts, and especially just before bees prepare for the long siege from winter's colds, the need for some cement is felt, and bees are to be seen carrying home loads of this gummy substance, much in the same way as they transport pollen from the fields to the hives. I think, from my close observation, that they seldom, if ever, carry it on a cold, dull, or rainy day, and rarely but in the middle of a fine, warm day, while the sun is shining brightly. This is just what might be expected, for naturally this is the very time when bees can best work up this gummy, resinous substance.

They obtain it from various sources. In my early bee-keeping days I used to wonder why bees visited pine woods, but since I have frequently seen them work on the exudations found on most cone-bearing trees. This is so abundant in pine woods that it becomes a perfect nuisance, and the matter is so very clammy and sticky that even combs, sections, frames, and the coverings can scarcely be handled on a very warm day, and at times frames get so glued down that it requires some effort to prise them apart, and most bee-keepers know what that means with anything like vicious bees. Vaseline rubbed on the support-ends of frames and spacers saves this to some extent, but the best preventive is the use of "W. B. C." metal ends and metal runners. This particular propolis is of a dark, and at times a bright reddish, brown, and is extraordinarily adhesive. The leaf-buds of many forest trees yield large quantities. Amongst them may be named the birch, alder, elm, horse-chestnut, willow, and poplar. Many flowers afford a supply, while bees also gather it from pitch, paint, varnish, and almost any resinous substance. Indeed, the complaint generally is that there is far too much of it used by the bees.

The fingers at times are heavily coated with it so that it becomes an inconvenience, as it is exceedingly difficult to remove it. Ordinary washing with either cold or hot water makes no impression, but it has lately been affirmed that concentrated lye acts like a charm and removes all traces after a good wash and rinsing of the hands in clean cold water. Spirits of wine rubbed on the fingers also dissolves it so that it is easily removable. Grease, butter, fat, or vaseline rubbed on the hands, or rather the fingers, before starting manipulations prevents the sticky substance from adhering, but if working for surplus the cure may be worse than the disease, because whatever fatty substance is used is bound to leave thumb and finger marks "all over the shop," a thing which should never be found on comb-honey surplus.

Two forms of propolis are found in the interior of hives—one soft and clammy, and the other hard and gritty; but I have reason to conclude that this arises from an admixture of wax. What is found on quilts is of the first order; what is seen placed against a loose entrance-slide is of the latter.

Its use (and abuse) is worthy of a little study. Combs built in a straw skep without foundation-guides require to be very firmly fixed to the hive-roof, because they may be called on to bear a weight of 5 lb. or 6 lb. Propolis is used lavishly in accomplishing this purpose. All cracks or crannies about any hive are hermetically sealed by a free application of this bee cement or varnish. Skeps, as well as inner boxes of frame-hives, are tightly glued down to the floor-board by a mass

of propolis, and if any inequality is found it is regulated by a supply of a mixture of this substance and wax. Quilts are securely fastened down to the tops of frames by this aromatic paint, and, as I have noted above, frames themselves are frequently "propolised" so firmly that it is no light task to move them apart or raise them for observation. Indeed, many races of bees are so lavish in their use of this substance that it becomes one of the trials of apiculture. Towards the end of active honey-gathering every joint and crack, every hole or opening, every ill-fitting space, and every inequality of finish is daubed liberally with the object of making the hive impervious to such outside ills as might afflict the inhabitants in the shape of rain, snow, cold winds, or other variations of temperature. Nay, it has been found that bees even partly close up an over-large entrance with a compound of wax and propolis, buttressing the entrance against foreign invaders. Well-authenticated cases are also recorded wherein their marvellous prevision has guarded against even the evil effects which might follow the intrusion of such "undesirable aliens," as witness Maraldi's "large black snail," Dr. Bevan's "garden snail with hard shell," and Huish's mouse. Their work in these and many other cases seems to me to be a result of direct reasoning.

Several points which have come under my observation deserve some further investigation. Place a sheet of foundation in a hive so late in the season that bees cannot draw it out, and it will be found to be thoroughly coated with a very fine, delicate coat of varnish. Bees are reluctant to draw it out, and often will not work it, unless in very hot weather, next year. Leave a rack of sections in the supers after bees have given up active comb-building, and every sheet will be found similarly varnished, so that these sections are next year drawn out only under compulsion, as it were. Perhaps the process may be intended as a preservative. Cells cleared of honey and polished for the reception of the queen's eggs seem to be coated with a very thin, delicate solution. These are only some of the uses of propolis in a bee-hive, and it appears to me that further investigation and wider knowledge will reveal others hitherto undreamt of.—D. M. M., Banff.

NOTES FROM S. HEREFORDSHIRE.

A SWARMING INCIDENT.

[6814.] So much has been written about the weather and the poorness of the season that there is little left to be said. Here, during the whole of June, with colonies up to full strength and clover in full bloom, our little friends "the brownies" were confined to their homes. We did not, in fact, have one real bee-day. As a trial this season I supered each hive with shallow-frames without using excluders, but whether from the wet and cold season, or from general habit, the queen at once took possession, and has filled the whole of the frames with brood. I may point out that the frames were spaced 2 in. apart. In one hive run for section-honey every section was spoiled with brood. With July came summer, and, so far as my apiary was concerned, excessive swarms.

A Swarming Incident.—One bright morning I was examining No. 3 hive, outside of which I had found a clipped queen, when the music at No. 1 told of a swarm issuing. The bees seemed more delighted than I was. The cluster finally settled in a neighbour's fruit tree, and I found a large skep quite inadequate to take so large a swarm. I watched for some minutes, pondering on my next move, when the queen appeared. I promptly secured her. She was a virgin, and as all my queens were clipped it made me ponder still more. This queen I used elsewhere. Rain coming on, I left the swarm to cool down. About an hour later I found the cluster very much reduced and very wet, but I secured them.

I naturally expected them to soon clear off and return to the parent hive; but not so. At night I found them still in the skep. Throwing them back to the parent hive, I discovered another queen, which I let run in. Directly the swarm had issued I had broken up the colony into three nucleus-hives, each with a ripe queen-cell, and left one similar cell in the parent hive, filling spaces with full-sheeted frames. The following day this hive swarmed again, and this time settled in a thick hedge. I secured part of the bees in one skep, and as they remained there I used another skep for the remainder. Hiving them next morning in the parent hive, I discovered two queens in the one skep and one in the other.

This means that there were three queens with the first swarm, one of which I must have overlooked. A friend who has kept an American bee-farm tells me that when swarms are delayed and young queens hatch out they are sometimes allowed to remain in the hives imprisoned in the cells, and that sometimes many young queens will issue with a delayed swarm.

Clipped Queens.—Our friend "D. M. M." (6775, page 273), in B.B.J. for July 11, advises clipping to prevent loss of swarms, It has its drawbacks as well as its blessings. If one can watch a swarm issue, all well and good; but if, as I found this season, a swarm issue unobserved and the

queen walk majestically to die of cold in front of another hive, what then? Those who clip should try a knife-blade with a razor edge in preference to the scissors. Cutting against one's finger severs the wing, and you run no risk of cutting off an odd leg or two. I send name for reference, and sign—IDEJA, Ross, Hereford.

SWARM BUILDING COMBS IN TREE.

[6815.] I have just come across what is to me a most unusual instance in bee-life. On Sunday, the 18th inst., Mr. Heslop, of Cockerton, was informed that his bees had swarmed, but as all his stocks had been sent to the moors a week previously, he was at a loss to understand the matter. He, however, went to his orchard, and found a very large swarm hanging from a small branch in the centre of a plum tree, and its size was commented upon by two or three bee-keepers who had gathered together. Preparations were made for hiving the swarm, when, on shaking the branch, the operator and the lookers-on were surprised to see a piece of comb hanging from the branch half-filled with honey, which on being cut down weighed over 7 lb. The bees were successfully hived, and I shall be glad to hear if you or your readers have ever come across a similar case, where the bees must have been living out in the open for some length of time, and particularly in such rough weather as has been experienced of late.—A. E. B., Eaglescliffe, August 19.

BEE-KEEPING IN MEXICO.

AN ENGLISHMAN'S EXPERIENCES.

(*Concluded from page* 327.)

[6816.] We are now at the end of April, until which time the bees work steadily through the day, but as the hot weather commences they can obtain but little nectar from the flowers after 10.30 a.m., the heat drying it up, as there is no moisture in the air. At this time, and until the rains commence—usually at the end of June—the bees appear to double their exertions. They are flying before sunrise, and keep up a perfect stream—impossible to count—entering and leaving the hive until the hour mentioned, when the stream diminishes until noon, when they may be easily counted. They remain quiet until 1 p.m., when the heat of the day rapidly increases. From then to 5.30 p.m. drones and bees, young and old, fly around in front of the hive in thousands, and it is safer to give them a wide berth. An odd one frequently attacks me at a distance of 30 ft. from the hive, whereas early in the morning I can extend my hand on the hive-board close to the entrance, and not one will attempt to sting. I have stated that the entrance is 15 in. wide by 2 in. high, and from the outside of the outer-case to the end-bars of the frames is at least $3\frac{1}{4}$ in., giving a space of, say, 100 cubic in. By 9 p.m. the whole of this space is full of bees, besides nearly a quart outside on the flight-board. This is a proceeding which puzzles me. In the hottest time of day but few bees are fanning; therefore it would appear they have sufficient ventilation; but as soon as all the family are at home one lot seem to do their best to smother those among the combs. As the night cools they all go inside. During the rainy season, which ends with August—although in a fortnight after the first heavy thunder-storm the sides of the mountains, from the river to their summits, are one mass of flowering vegetation—the bees can collect but little; the torrential rains batter down, and wash the nectar from, the flowers. From this time on to the end of January the bees can barely collect sufficient honey to sustain themselves; hence I feed to keep up brood-rearing.

During this time robbers are abundant, and until the end of October, on account of the temperature, I found it unwise to reduce the entrance, as, on doing so, the bees immediately commenced fanning; and as regards enlarging or reducing ventilation, I take the actions of the bees for my guide, feeling convinced that—much as we think we know—they know a great deal more of their own wants than ourselves. I read in *Gleanings* that it was a great advantage to have a high entrance, exposing the end-bars of the frames, so that returning bees flew directly on to them, and so saved time. This I found true and also that during the robbing season the robbers did the same, and produced a flight *inside* instead of outside the hive. To avoid this I placed slats on the shifting entrance-blocks, across the entrance, closing the direct entrance to $\frac{3}{8}$ in. high, but without diminishing the area for ventilation, so that a robber, on pretending to enter direct, had to face a regiment of defenders in a narrow opening, or go down between the slats, which they were disinclined to do, perhaps for the reason that all thieves want a direct exit with their plunder. At any rate, I found the plan acted very well, and put a stop to robbing without interrupting the bees in their entering or exit. A sketch of this "robber-excluder" appeared in last week's issue.

The hive and supers are made of $\frac{5}{8}$-in. pine, the former with thirteen frames, 15 in. by 8 in. in the clear, and the latter with an equal number of frames, 15 in. by $6\frac{1}{4}$ in. in the clear. Enclosing the working parts of the hive and supers are outer-

cases of ⅜-in. pine, leaving a clear air-space on all sides 2 in. wide, which is filled with woollen rags up to the cover. I adopted the "Danzenbaker" hive-board and "Hoffman" frames as being less apt to get stuck together with propolis, and also giving more circulation of air inside the hive. The hive-board is 14 in. above the ground, to avoid toads getting at the bees at night. The hive stands in a small shed, roofed with inch boards 7 ft. 6 in. from the ground, and around the shed is a shallow ditch kept full of water to keep away the small black ants and scorpions, which latter eat, or rather suck dry, all beetles, roaches, and any insect large enough to handle. In this ditch I have (except in front of the hive) banana plants 15 ft. high, whose leaves, from 6 ft. to 7 ft. long and 15 in. wide, cast a grateful shade, and from the immense amount of water the plant contains tend to cool the air around the hive, which, I should state, faces the north-east, and in front of which, 50 ft. away, are wide, low-spreading guava trees, backed by bamboo 25 ft. high, which partly protects the hive from the cold winds in winter. This is all I have been able to do to keep down the temperature in summer, and keep it up inside the hive in winter, and the bees appear to be contented.

These bees have shown no inclination to swarm, neither have they placed any brood in a super, into which the queen can go up when she pleases, there being ⅜ in. between the top-bars and the same distance over them. As to a queen-excluder, I would rather lose some honey than use one. On putting the "Alley" trap, for only three hours at a time, in the afternoon to catch the drones before the entrance, it gave me pain to see the poor worker-bees running up and down seeking an entrance, and finally struggling to get through, some sideways and some bottom up, while others lost their balls of pollen so laboriously gathered.

As they have not swarmed, I wished to divide them, so as to have another stock, but, it being impossible (for me) to find the queen, I have had to give up the idea, and as for providing a young queen, I must leave that for the bees to attend to.

With regard to the diseases of bees, as there are only two or three boxes (not hives) of them for several leagues around, I think all are clean, as the wax-moth cleans them up pretty regularly, and new bees are obtained from trees. Mine keep the hive-board clean and smooth. It is the colour of mahogany, so I see no reason for disturbing the hive, and possibly, in my ignorance, think the less they are meddled with the better. I find the early morning the best time for handling them, as at that time they are very quiet and disinclined to sting. I only use a veil for the purpose of using the smoker just as little as possible, and often look into a super and find a puff or two from my pipe sufficient.

As will have been noted, I do not pretend to produce section-honey. The people around are not sufficiently advanced to appreciate it. As I have no extractor, I cut out the combs from the frames, mash them up, and then pour all into a conical strainer made of strong muslin. After all is in, I place a circular piece of board on the top with as heavy a weight on it as the muslin will stand, and let it hang several days, until no more honey drips from it. Of course, several pounds of honey remain with the wax, to avoid losing which, on rendering the wax, I am trying an experiment. On turning out of the strainer the now solid cone of wax and honey, I slice it into slabs ¾ in. thick, and place these on slats on the board that covers the frames of the upper super, in which is a slot 3 in. by ½ in., through which the bees can get up, and place on the gabled cover (bee-tight, of course). I have done this for about three weeks, and find the bees extract the honey from the slabs so thoroughly that, on removing, they are not even sticky. The bees appear to bore into the slabs and form cells, and I suppose store the honey below.

It will be evident from what I have stated regarding this climate and locality that, however valuable under other conditions, the advice on all particulars relating to bee-keeping in the publications I have named is of little use here, and must not be blindly followed. I think all that one can do is to obtain a knowledge of the principles of bee-keeping and of the instincts of the bee, and by close observation to apply the knowledge acquired each to his own locality.

Although from February 21 to April 4 I obtained 158 lb. of strained honey in the crude method explained, leaving many pounds mixed with the wax, doubtless with better and more intelligent management I could have obtained more, but bee-keeping is not learned in a day, and, so far, I am but a keeper of bees.

It now only remains to me to hope our esteemed Editor may find this long rigmarole not too unworthy to while away a few idle moments before committing to the waste-paper basket, and if he will kindly criticise and advise on the (I feel) ignorant treatment to which I subject my bees, I shall be extremely grateful; and anticipate my sincere thanks, with best wishes for all concerned in the B.B.J.—Frank W. Breach, Chinipas, Chihuahua, Mexico, June 25.

[Your interesting letter needs no criticism on our part, except to say the "robber-excluder" should be very useful under the conditions described.—Eds.]

NOVELTIES FOR 1907.

SELF-HEATING UNCAPPING KNIFE.

At the Universal Exhibition in Milan a novel uncapping knife was exhibited by the use of which the usual water-tanks for heating the knives are dispensed with. It is the invention of M. Alessandro Tonelli, of Coccaglio, Italy, and by referring to the illustrations it will be seen it consists of a knife in the form of the "Bingham" with a wide blade, the edges of which are bevelled and kept keen through constant heating by steam or electricity. The bevelled edge, which is very sharp, enables one to cut the cappings of the combs rapidly and without tearing them, and the width of the knife prevents the wax which is removed from adhering to the combs again. The cutting is done in the same way as when a "Bingham" knife is used from the bottom upwards. The cappings do not stick to the blade, but as it is hot slide over it and fall into the receptacle below. The illustration Fig. 1 shows the complete apparatus for heating by steam, the separate parts being shown in Fig. 2. It consists of a spirit-lamp, on which is placed a support for the boiler above it. This is provided with a safety-valve, so as to avoid any danger of explosion. The steam generated in the boiler is conducted by means of a pipe to the knife, through which it circulates, and returns to the boiler in a condensed form by means of a return pipe. The knife, as will be seen by the section, Fig. 3, is hollow, and may have two cavities or one, as shown in lower illustration. The inventor prefers the one with the two cavities, as this enables the steam to circulate better. It is evident that so long as steam is generated in the boiler the knife will be kept hot, and should condensation be so great in the conduits in

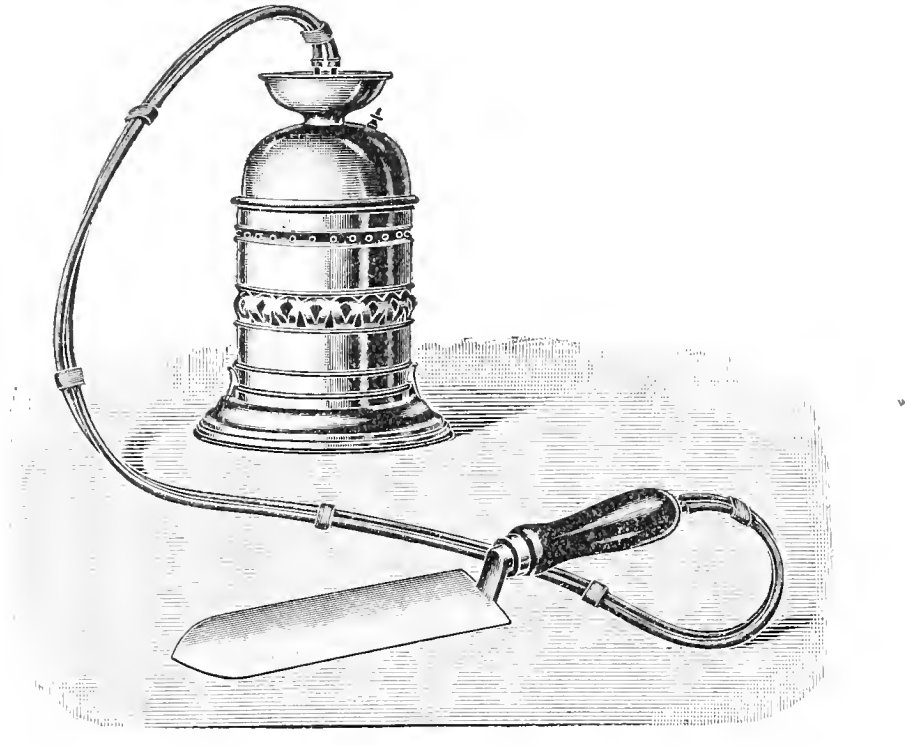


Fig. 1.

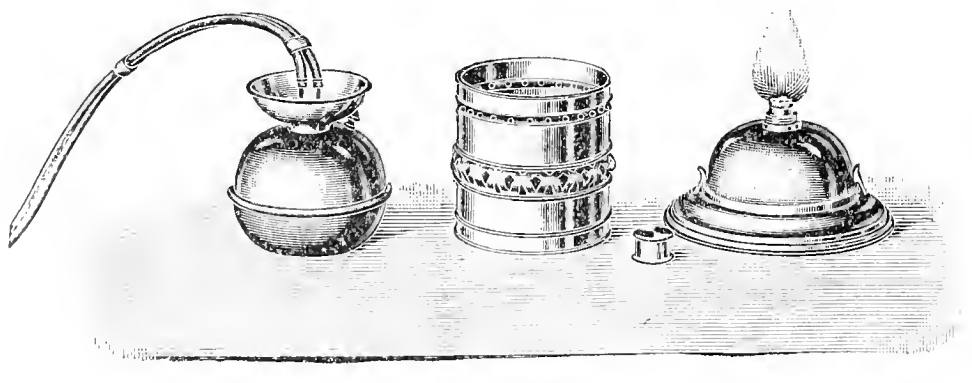


Fig. 2.

the knife as to fill them with water, the boiler has simply to be removed from the spirit-lamp for a few seconds, when a vacuum is produced, and the cavities are emptied as if by magic. The boiler is filled with half a litre of boiling water, so that steam is generated almost at once. The apparatus takes up little room, and the tubes are long enough for ordinary uncapping. For those who have electricity at their disposal the inventor has arranged a knife (Fig. 4). Instead of tubes, electric wires are used, and connection is made with the

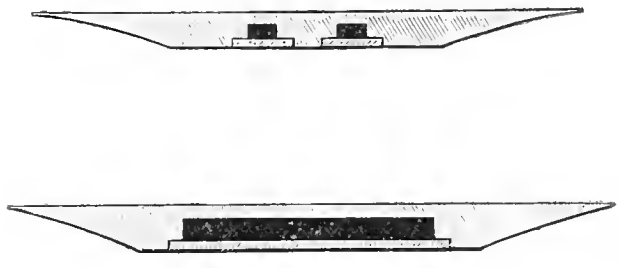


FIG. 3.

main in the wall or at a lamp. The electricity consumed is about equal to that of a ten-candle lamp—that is, about one penny an hour. Although the knife is a little heavier than an ordinary one, it is less fatiguing to use, because there is no adhesion of the uncapped combs which is caused by the honey, this being liquefied by the heated knife. The price of the apparatus complete is 20 francs (16s. 8d.).

Queries and Replies.

[3571.] *Dead Bees under Lime Trees.*—We have a lime tree in our garden, and another in the lane leading to the school, and for many days past we have found on the path under the lime tree quantities of dead bumble-bees. I have enclosed some of them for your inspection. It will be seen that there is only the shell left of each bee's thorax. A curious thing is that, although the inside is completely scooped out, their legs move long after they fall on the ground. Can you tell us what it is that kills them?—WM. OLIVER, Westbury School, Shrewsbury.

REPLY.—Though, fortunately, not of frequent occurrence, it occasionally happens that not only bumble-bees, but hive-bees, are found on the ground dead, but perfect in all respects save for the pit-like scooping out of the thorax. This latter portion of the bee is the fleshy part, sought after by birds as a "tit-bit," and by ants, as in your case, both the "bee-enemies" named preferring that particular part of the bee's body as food.

[3572.] *Queen "Balled" in August.*—The enclosed queen was picked out by me to-day from a clump of bees on the flight-board of one of my hives. She was not long dead when I released her from amongst the bees which surrounded her, and I am at a loss to know why she should have been so treated. I have only two hives, the other being an Italian colony, and as the enclosed queen is a black, she must be the head of the colony which caused her death. The colony which she headed was very weak at the beginning of the season, and I therefore paid special attention to it, and, besides constant feeding, I had helped it with frames of brood from my other hive. Notwithstanding all the attention I paid to the hive, the bees never entered the supers. At the present time the hive is strong in bees, well covering ten frames, with plenty of stores and brood in all the frames, and although I know the queen to be an

FIG. 4.

old one, I think it rather strange that I have not seen a single drone in the hive this season, so that the queen, therefore, cannot be a drone-breeder. Being so well pleased with the work of my Italian stock this season, I have ordered a pure Italian queen to replace the one enclosed, and I would thank you to let me know: 1. The cause of the death, and if any injuries discernible? 2. The probable age of the queen?—IRISH READER, Strabane.

P.S.—You may possibly remember my query under the head of "Winter Stores" (vol. xxxiv., page 516). This is the queen you then advised me to supplant.

REPLY.—1. There are signs of a ruptured abdomen in queen sent. 2. We should take it for a queen in her second year. With regard to your postscript, we find our reply in B.B.J. of December 27, 1906, reads as follows:—"If you can be absolutely certain that the bees of No. 2 have *not* re-queened themselves, it will be very advantageous to give them a young and prolific queen in the early spring." After seeing the queen lately sent, it appears quite clear that the bees had re-queened themselves last autumn.

[3573.] *Subduing Bees with Carbolised Cloth.*—I have a cask of 95 per cent. to 97 per cent. pure carbolic acid, and ask: In what proportion shall I mix with water to saturate a cloth above frames to subdue bees, and for driving bees down from section-racks during manipulations? Would one wineglassful of this carbolic to an ordinary quart bottle of water be strong enough? The ordinary smoker seems insufficient with one particularly vicious hive.—CHAS. DUNLOP, Arran, N.B.

REPLY.—The use of carbolised cloths is supposed to be a milder form of subjugation than the ordinary smoker; therefore, it will have far less effect on a vicious stock than a good volume of smoke. If the bees in question are not amenable to smoke from the ordinary brown paper, we should try a little tobacco mixed with the paper.

[3574.] *Drone-brood in Worker-cells.*—Being a constant reader of the B.B.J., I should like your opinion on the enclosed queen-bee. It was hatched about two months back in a hive which swarmed, this being the queen reared by the stock out of about nine queen-cells which the swarm left behind them. What I wish to point out is that, although the enclosed queen is undoubtedly fertilised, she lays nothing but drone-eggs, and, what is more, in worker-cells. As you will understand, the frames are all built out from full sheets of worker-cell foundation, and there is, in consequence, very little drone-comb in the hive She has laid eggs in about five combs, and the bees have extended all the capping of the worker-cells to accommodate the drone-brood. I mention this so that you will understand there is no mistake on my part in distinguishing drone-brood in worker-cells from worker-brood. I have kept bees for eight years now, and have been fairly successful, and I always look forward to your two publications with great interest.—PERPLEXED, Olton, Birmingham.

REPLY.—You are mistaken in supposing that the queen-bee sent is fertilised; though full-sized, there is every appearance in the abdomen of a virgin queen, and the drone-brood in worker-cells confirms this conclusion.

[3575.] *Responsibility of Bee-stings.*—Please inform me through the columns of the B.B.J. if I would be responsible if any of my men were badly stung by my bees, for the fruit-pickers and their babies are often stung whilst gathering fruit amongst the hives. I may say a baby last week was stung in both eyes, and it was a serious case. I therefore ask: Do you think I could be held responsible? Is there any insurance office that would take the risk? I send name, and sign—INSURANCE, Essex.

REPLY.—It is difficult to say where "responsibility" for injury to servants comes in under the present law, but we should think the line would be drawn at fruit-pickers' babies. We cannot answer this query, though it is certain that many enterprising insurance offices are taking up risks of all kinds that are likely to come under the new Act.

Bee Shows to Come.

August 27, at Cartmel, Lancashire.—Honey Show in connection with the Cartmel Agricultural Society. Open classes for Sections, Extracted Honey, and Beeswax. Local classes for Sections and Extracted Honey. **Entries closed.**

August 28, at Chester (Cheshire Agricultural Society's Show).—Bee and Honey Department, under management of the C.B.K.A. Open classes for Hives, Sections, and Extracted Honey. **Entries closed.**

August 28 and 29, at Rugby (Warwickshire B.K.A.).—Show of Honey and Bee Appliances, in connection with the Annual Show of the Warwickshire Agricultural Society. Schedules from Jas. N. Bower, Hon. Sec. Warwicks. B.K.A., Knowle.

August 28 and 29, at Osmaston Park, Derby.—Annual Show of the Derbyshire B.K.A. Increased prizes. Reduced entry fees. Schedules now ready. Apply, R H. Coltman, Secretary, 49, Station-street, Burton-on-Trent.

September 4, at Conder Green, Lancaster.—Honey Show, in connection with Horticultural and Agricultural Exhibition. Open and County Classes. Apply, T. Walmsley, Hon. Sec., Conder Green, Lancaster.

September 5, 6, and 7, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. **Entries closed.**

September 7, at Bramhall, Stockport.—In the grounds of the Bramhall Hall, by permission of C. H. Nevill, Esq., Honey Show in connection with the District Horticultural Society. Low entrance fees. Three Open Classes, with liberal prizes. Schedules from J. Sibson, Bramhall, Stockport. **Entries close August 31.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Trades' Fifteenth Annual Exhibition and Market. (See large advertisement on page iii.) **Open to all British Bee-keepers.** Entry fee in each class 1s. Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 12, at Castle Douglas (South of Scotland B.K.A.).—Exhibition of Honey and Wax in connection with the Dairy Show at Castle Douglas. Five Open Classes; Three Bottles Run (20s., 12s., and 6s.); Three Sections (15s., 10s., and 5s.); One Bottle (4s., 2s., 1s.); One Section (4s., 2s., and 1s.); Wax (5s., 3s., and 2s.). Schedules from Q. Aird, Hardgate School House, Dalbeattie, N.B. **Entries close August 31.**

September 13, at Conway, N. Wales.—Annual Honey Show, in connection with the Conway Honey Fair. Open and Local Classes. Schedules from J. Hughes, Town Hall, Conway. **Entries close September 6.**

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the Fifteenth Annual Exhibition and Market of the Grocery and Kindred Trades. Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 25, at Altrincham.—Honey Show, in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. Classes for Trophy of Honey, for Best Hive, Observatory Hive with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester: Amateur-Built Hive, two Shallow Bars, Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low Entrance Fees. Schedules from Mr. J. Herbert Hall, 2, Dunham-road, Altrincham. **Entries close September 7.**

October 17 to 26, at Waverley Market, Edinburgh.—Honey show in connection with the Eleventh Annual Edinburgh and Midlothian Industrial Exhibition. All open classes. Beautifully illustrated prospectus, price 2d., from A. Hutchinson, 15, Leith-street, Edinburgh. **Entries close October 3.**

Notices to Correspondents.

CONSTANT READER (Wye, Kent).—*Honey-cakes for Show-bench.*—We do not think it any detriment to a honey-cake staged in competition to have a "crack across the top"; in fact, it is evidence of the cake having "risen" well. The main point in judging is flavour and absence of "stodginess," to use a common term.

SPERO (Lowestoft).—*German Honey* (?).—We have not replied to your query under the usual section of "Honey Samples," because we do not think your sample is honey at all. In any case, if it be genuine, we should not care to see "Wiesbaden" honey on our table. It is the most curious stuff we ever sampled, and not a bit like honey in any respect.

F. HOBMAN (Yorks). — *Bee-nomenclature.* — The smaller of two bees sent is practically a native, or common worker-bee. The other is a diminutive queen so like a worker in size that it is no wonder you were deceived. When received, the head was gone and both hind-legs, but part of a leg found in box enabled us to fix the sex.

J. BLAIR (Milnthorpe).—*Drones and Swarms.*—1. There is no particular reason that we know of why drones should leave the hive along with a swarm; they do, however, and many of them return to the parent hive next day. 2. By examining the under-side of laurel leaves on which bees work at certain seasons, it will be seen the insects are attracted by a small protuberance on under-side of the leaf, from which bees gather nectar freely at times.

Honey Samples.

F. STERN (Lincs).—Sample is very good clover-honey, fit for staging on any show-bench.

F. W. G. (Dulwich).—Honey sent is fairly good in flavour and quality. It is from mixed sources, the predominating flavour being from the lime trees within reach of the bees.

Suspected Combs.

NOVICE (Workington).—Comb is affected with foul brood of long standing.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

HEALTHY DRIVEN BEES, commencing August 1, 3s. 6d. per lot, with Queens; boxes to be returned; orders rotation. Cash with order. T. PULLEN, Ramsbury, Hungerford. a 34

FINEST QUALITY Light-coloured Extracted Honey (1906 crop), in 28-lb. tins, 8d. lb., f.o.r.; 5-cwt. lots and upwards, 70s. cwt., f.o.r.—C. DUNN-GARDNER, Fordham Abbey, near Soham, Cambs. b 56

Special Prepaid Advertisements.—*Continued.*

CLEARANCE SALE, Surplus Stock. 25% to 50% Reduction. Flat Cane-bound Skeps, 1s. 3d.; Broad Shoulder Frames, 10d. doz.; Wax Moulds, 2s. each; Wilkes' Feeders, 2s.; Plain Wood Dividers, 3s.; 100 W.B.C. Ends, 2s. gross; Section Crates, fitted no-way sections and fence separators, 1s. 9d. each; No. 4 Hives and Frames, 8s. each; No. 7 Wells, 20s.; No. 5, 10s.; Honey Ripener, 5s.; Show Cases, Spring Crates, Bottle and Section Travelling and Swarm Boxes, all cheap; several pairs Gloves. Send for full particulars; Drone Foundation for Shallow Frames (Weed), 2s.—FRED KENT, Bee Appliance Works, Dorchester. b 55

WANTED, by married man, at Michaelmas, Situation to Manage Apiary or Apiary and Poultry Farm; good character, experienced.—"H.," c/o "Bee Journal." b 58

NUCLEI, from Sladen's strains. Last few, 3-frame, from 10s. 6d.; Stocks, from 25s.—PAUL, Salisbury-road, Bexley. b 60

GUARANTEED PURE HONEY, light colour, mostly Clover, 28-lb. tins 14s. 6d., cwt. 56s.; sample 2d.—ANDREWS, 74, Gladstone-street, Peterborough. b 36

YOUNG QUEENS, fertile, 2s. each, immediate delivery; cash with order.—T. D. SINFIELD, 26, Upper George-street, Luton, Beds. b 57

WANTED, Two Hives of Bees, in exchange for handsome Young Goat, in milk.—Particulars, MULLEY, Surrey Cottage, Filey. b 41

HEALTHY DRIVEN BEES, with good Queen, 5s., package returnable; extra Queens, 2s. 6d. each.—JOHN P. PHILLIPS, Spetchley, Worcester. b 46

CHAPMAN HONEY PLANTS.—Strong plants, to blossom 1908, 12 3s., 6 1s. 9d., package free; Seed, 6d. and 1s.—JOHN P. PHILLIPS, Spetchley, Worcester. b 47

FOR SALE, Twelve Stocks Healthy Bees, on 10 frames each, in joiner-made "W.B.C." Hives, all new last year, and well painted. Lots to suit purchaser. Owner deceased.—Apply, Mrs. POGSON, Holme-road, West Bridgford, Nottingham. b 54

SEVENTEENTH SEASON.—Healthy Driven Bees, with young Queen, in 4-lb. lots, at 1s. 3d. lb., boxes returnable, carriage paid, or charged 1s.; also young Fertile Queens, at 2s. each, with introducing cages, post free.—R. BROWN, Flora Apiary, Somersham, Hunts. b 45

CLOVER HONEY, guaranteed pure, £3 cwt.; sample 3d. Deposit.—GILBERTSON, 43, High-street, Annan, Dumfriesshire. b 50

SITUATION WANTED as Handy Man, assist gardener, understands Bees, &c.—SHORT, Barton St. David, Somerton, Somerset. b 51

FOR SALE, Apiary of 17 Bar-Frame Hives, 2 Stocks, in Boxes, with appliances, healthy. Price £28. Particulars, X., care of "Bee Journal." b 59

NEW HONEY-RIPENER AND STRAINER, holds cwt. Exchange 2 4-lb. lots healthy driven Bees.—GLOSSOP, Ridgeway, Ambergate. b 39

DRIVEN BEES. Old customers apply quickly. —W. MARTIN, Well Cottage, Downley, High Wycombe. b 38

TWO HIVES BEES, healthy, Standard Frames, 18s. each.—WYER, New Sawley, Derbyshire. b 37

CHEAPER THAN DRIVEN LOTS.—Few good strong healthy Skeps of Bees. Bargain, 7s. 6d. each, f.o.r.—LITMAN, Castle Cary. b 40

HEALTHY DRIVEN BEES, and their young Queen, at 3s. 6d. per lot, or 1s. 3d. per lb., not less than 4 lb. lots; box returnable.—E. GARNER, Broom, Biggleswade, Beds. b 42

Special Prepaid Advertisements.—*Continued.*

NEW SECTIONS WANTED, first quality, cash. —SMITH AND CO., Cambridge-street, Hyde Park. b 43

FINE TESTED 1907 FERTILE ENGLISH QUEENS, of my hardy prolific strain, 3s. 6d. each, guaranteed healthy and safe arrival.—WHITING, Valley Apiaries, Hundon, Clare, Suffolk. b 44

STRAWBERRY PLANTS, strong, choice, 24 for 1s., 100 3s. 6d., post free.—HEAD, Brilley, Whitney, Hereford. b 48

WANTED, 15-20 Lots Healthy Driven Bees.—Apply, giving price, GARDEN, Ardgathnie, Elgin, N.B. b 49

FINEST ENGLISH HONEY, 15s. per 28 lb. tin; sample, 2d.—DUTTON, Terling, Essex. b 52

STRONG HEALTHY DRIVEN BEES, with fertile Queens, for sale, 1s. 2d. per lb., cash with order.—HELLARD, 51, St. John-street, Bridgwater, Somerset. b 53

STOCKS, SWARMS, NUCLEI, AND QUEENS, as previously; 3-frame Nucleus, 9s. 6d.; imported Italian Queens, 5s. 6d.; British, 3s. 6d.—WOODHAM, Clavering, Newport, Essex. b 30

BEES, with Queen, on eight frames, 15s. (six lots); also four good healthy Skeps, 10s. 6d. each.—IVE BOUGHTON, Ollerton, Newark. b 26

WANTED, SIMMINS'S "CONQUEROR" HIVES, secondhand. — HULBERT, 16, Manor-place, Paddington, W.

FOR SALE, SMALL APIARY, twelve stocks, mostly "W.B.C." hives, interchangeable, and young queens, all healthy. Description and photo on application.—"HANTS BEE," c/o B.B.J. Office. b 22

COMBS REPAIRED, and Foundation Prevented Stretching, by using "Nondescript" device. Sample set, P.O. 1s. 1d. — W. PALMER, Gate House, Maghull, Liverpool. b 31

MUST BE SOLD.—3-gross Crates of Screw-cap lb. Jars, with cork wads and hard caps, 12s. 6d. gross; "W.B.C." Hives (21s.), 16s. each; ditto, in flat, but without section-rack, 12s. 6d. each, 144s. dozen.—SHEPHERD'S BEE STORES, 478, Stockport-road, Manchester. b 29

FOR DISPOSAL, the whole of my Apiary, containing bee-houses, hives, bees, and all appliances.—W. STANDRING, 56, Central-drive, Blackpool. b 21

DRIVEN BEES, strong healthy lots, with 1907 fertile Queens, 5s. lot.—THOMAS BRADFORD, Expert, 21, Little Park-street, Worcester. a 89

BEST LIGHT CLOVER ENGLISH RUN HONEY, in any quantity, required by the BATH AND SOMERSETSHIRE DAIRY CO., LTD., Bladud Buildings, Bath, 48s. per cwt., free on rail. Send small sample. b 15

BEAUTIFUL Young Fertile Golden Queens, 4s. each.—O. KNIGHT, Epney, Stonehouse, Glos. a 83

31ST YEAR.—Healthy Driven Bees, 5s. 6d., cases free.—ALSFORD, "Expert," Haydon, Sherborne. a 52

FOR SALE, 500 Young Fertile Pure Carniolan Queens, 4s. each; also 500 Young Fertile Caucasian Queens, 7s. each; cash with order.—HAUNSCHILD, Weissbach-by-Pulsnitz, Saxony.

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

Special Prepaid Advertisements.—*Continued.*

WANTED, for Scientific purposes, DEAD QUEEN BEES, and WORKER HORNETS. Will brother Bee-keepers oblige?—HERROD, Apiary, Luton.

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester.

LIGHT EXTRACTED HONEY, in s.c. jars, 10s. per doz.; sample jars, 1s. Sections: Top Prices Given for Large or Small Parcels; Surplus Stocks, with Winter Stores, for Sale.—CHARTER, Tattingstone, Ipswich.

15TH YEAR.—Healthy Driven Bees, with young fertile Queens, 5s.; 1907 Tested Queens, 2s. 6d.; prompt delivery. Customer writes:—"The driven bees I had of you last year have done excellently." — SOLE, Expert, Poplargrove, New Malden. b 23

WANTED, New Sections, first quality; prompt cash.—W. CHILTON, Southdown Apiaries, Polegate, Sussex. a 33

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw-cap jars, 77s. gross, 21s. ½ gross; ½ lb. ditto, 45s. gross, 13s. ¼ gross; Honey in bulk, 48s. cwt.; samples, carriage paid, 8d. Further prices and particulars on application.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 74

HONEY JARS.—We have contracted largely for special well-finished machine-made screw-top jars, each washed and wrapped in paper, complete, with caps and cork wads, 15s. 6d. gross, 43s. 3 gross; ½ lb., 12s. 6d. gross, 37s. 3 gross.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 75

BRICE'S 1907 HYBRID QUEENS, tested, 5s. 6d.; Virgins, 3s.; safe arrival guaranteed.—HENRY BRICE, Brigstock-road, Thornton Heath, a 13

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

"COME TO CANADA."

$7,000 will buy Profitable Wholesale Honey Business, well established, with unlimited expansion. Honey building 75 ft. long; capacity of bottling room 2,500 lb. a day; fine packing-room. Also fine brick house, large stable, and nearly 9 acres of the best of land, with seventeen different kinds of apples; fine shade trees and hedges. A lovely home in the best location in a nice village of 1,200 inhabitants. Also the home apiary and three out apiaries, of over 300 colonies, and about 500 hives. Can add to revenue by keeping cows and growing strawberries. Good reasons for selling.

G. A. DEADMAN, Brussels, Huron Co., Ontario, Canada.

DON'T GET STUNG,

when by using **APIFUGE** you can easily prevent it.

APIFUGE will also be found extremely useful for travellers in foreign countries where insect pests abound. Bottles, 1/- post free.

S. E. GRIMSHAW, 4, Reginald Place, Chapeltown, LEEDS.

DAIRY SHOW, LONDON.

OCT. 8, 9, 10, & 11.

GREAT EXHIBITION OF

HONEY, WAX, APPLIANCES, &c.

Entries close Sept. 9.

Particulars of Wm. C. YOUNG, Secretary, 12, Hanover Square, London, W.

Editorial, Notices, &c.

LANCASTER AGRICULTURAL SOCIETY.

HONEY SHOW AT LANCASTER.

The above show was held at Lancaster on August 21, and, like many others, the honey-section suffered from the present adverse bee-season, there being only sixty-five entries, as against ninety-three last year. The quality of the exhibits was excellent, and the judge had a difficult task in awarding the various prizes. Owing to bad weather, the bee-demonstration had to be abandoned, but Mr. J. M. Bold gave an interesting and instructive address on bee-keeping in the honey-tent, which was much appreciated by his audience. Mr. J. M. Bold, Liverpool, acted as judge, and made the following awards:—

OPEN CLASSES.

Six 1-*lb. Sections* (11 entries).—1st, William Patchett, Cabourne, Caistor, Lincs.; 2nd, Jas. Pearman, Penny Long Lane, Derby; 3rd, Thos. Walker, Esthwaite, Hawkshead.

Six 1-*lb. Jars Extracted Honey* (18 entries).—1st, Henry Fenney, Lea Green, St. Helens; 2nd, Chas. Laywood, 24, Willingham Road, Market Rasen; 3rd, Fred. Harris, High Ferry, Sibsey, Boston, Lincs.; reserve, A. S. Hoarse, Trevollard, Saltash, Cornwall.

Six 1-*lb. Jars Medium-coloured Extracted Honey* (10 entries).—1st, S. G. Leigh, Broughton, Hants; 2nd, Jas. Standen, Marsh Lane, Cockerham, near Garstang; 3rd, Jas. Gorst, Middleton Brows, Heysham; reserve, Jno. Wilson, York Villas, Shirebrook, near Mansfield.

Beeswax (12 entries).—1st, H. W. Saunders, 43, Croxton Road, Thetford; 2nd, Jas. Pearman; reserve, Thos. Walker.

LOCAL CLASSES.

Six 1-*lb. Jars Extracted Honey* (9 entries).—1st, Wm. Black, Ashton Hall, Lancaster, L.B.K.A. Silver medal; 2nd, T. H. Stewart, 2, Chapel Street, Dalton-in-Furness, L.B.K.A. Bronze medal; reserve, A. D. Harrison, Gautsfield, Kirkby Lonsdale.

Trophy of Honey and Bee-produce (2 entries).—1st, Mrs. Lloyd, 2, Bank Road, Lancaster, Silver Challenge cup; 2nd, Wm. Clark, Boarbank Lodge, Grange-over-Sands, L.B.K.A. silver medal.

SPECIAL PRIZES.

Silver Medal.—Thos. Walker. *Bronze Medal.*—Hy. Fenney.

President's Prize.—Mrs. Lloyd, Lancaster.—W. LLOYD, Lancaster.

REVIEWS OF FOREIGN BEE-JOURNALS.

By "Nemo."

When is Honey Ripe for Extracting?—We read in the *Ungarische Biene* that frequently honey that is uncapped is ripe enough to extract and will keep as well as that which has been duly capped over. It is not, however, all uncapped honey that should be extracted. To discriminate, a frame of unfinished comb should be taken hold of with both hands by the ends, raised, and then lowered, suddenly stopping, just as we should proceed in shaking bees off the combs. If the honey is ripe not a drop will be shaken out of the cells by the jerk, and such a comb can be safely extracted, even if the cells have not been capped. On the other hand, if the honey flies out, or even a drop escapes, when the comb is shaken in this way, then the honey is not ripe enough for extracting, even if the comb is capped over three-fourths of its surface.

Honey as a Cure for Influenza, &c.—The *Praktischer Wegweiser* tells us that the best remedy for influenza is yarrow tea and honey. At the commencement of the attack a cup of yarrow tea with a table-spoonful of honey in it should be taken morning and evening, and if commenced in time a speedy cure follows. A cold in the head is generally cured after taking one dose, and delicate or ailing children as well as grown-up people are greatly benefited by making this their usual drink.

How the Honey-bee Discovered America.—In an extract from *Ueber Land und Meer*, appearing in *Illustrierte Monatsblätter für Bienenzucht*, Wilhelm Boelsche relates how the honey-bee was introduced into North America from Europe by the "pale-faces." The native Indians had no name for the bee in their language, and to this day they call it the white man's fly. There is reliable evidence that bees were introduced into North America in the seventeenth century. In English-speaking North America the date was about 1638, and a little more than a hundred years later (in 1763), another known date, bees were taken to Florida by Englishmen. About the same time they were introduced into Cuba by the Spaniards. From these centres bees spread far and wide over the American Continent from the beginning of the eighteenth century. In 1780 they came to Kentucky, 1793 to New York, and in 1797 they crossed the Mississippi westward. They were first taken to Brazil in the nineteenth century, and to Montevideo in 1857. First kept by farmers, bees very soon established themselves in the woods, and spread rapidly. Tropical heat was no hindrance, and they flourish

in Cuba. Thus, along with man, bees migrated from east to west.

Inverted Brood.—Herr U. Kramer, President of the Swiss Bee-keepers' Society, alludes to inverted brood in the *Schweizerische Bienenzeitung*, and states that a great deal has been written about it, some wonderful theories having been propounded respecting it. Some years ago the Society received from the highlands of Zurich a comb containing inverted brood. A mieroscopieal examination by Professor Dr. C. Keller, of Zurieh, revealed tiny insects which were evidently parasites worrying the larvæ, and causing them to change their positions. This, Herr Kramer points out, agrees entirely with Dr. Assmuss, who deseribed the parasite as the hump-backed bee-fly—*Phora incrassata meigen*—a dipterous insect that lays its eggs right in the cells containing unsealed larvæ.

Bee-keeping in Moravia.—Abbé F. Adamec states in *L'Apiculture Nouvelle* that in Moravia (Austria) the number of bee-keepers has doubled from what it was at the end of last century, and increases dailv. In 1906 there were in Moravia 95,329 colonies of bees, of whieh 66,317 were in hives with fixed combs, 4,226 combined hives (hives with movable supers and brood-chamber with fixed combs), and 24,785 movable-frame hives, mostly of the Berlepsch type, a form that was adopted in 1866. During the last four years the American type of hive has been introduced, as well as the Dadant-Alberti. The former is used out of doors and the latter in bee-houses or pavilions. In order to use the American type of hive in bee-houses a professor, M. Edouard Hirube, turns the entrance to one side, making the hives like ours, with frames running parallel to entrance, and he considers them more handy for the bee-keeper to manipulate. Moravia comprises three-fourths of the Slav nation. There is a monthly journal devoted to bee-keeping, *Pcelar Moravska*, which advocates modern methods of management.

The Reason why Queens in Cages Become Small.—M. A. Wathelet says in *Le Rucher Belge* that if a queen is removed from a colony where she was laying, and with abdomen expanded with eggs is placed in a cage, the abdomen will by degrees diminish in size as the eggs are dropped. After a few hours, as she no longer receives the digested and stimulating food produced by the workers, she becomes very small, and after twenty-four hours is no larger than a virgin queen, and is incapable of recommencing egg-laying until she has passed some days in a colony. If in the spring a laying queen is replaced by a queen that has been confined in a cage, the bees easily notice the change, and her introduction will be difficult. It is quite different if the queen to be introduced is taken out of a colony where she was laying. In such a case the change is hardly noticed, and with the precaution of guarding against robbers, a little smoke, and powdering the bees with flour, the introduction is easy. Queens reared in nuclei in the same apiary are always accepted, whereas those coming from another apiary are not always, notwithstanding all the precautions taken. From this it will be seen that the best time for introducing a queen that has come in a cage is when queens have ceased egg-laying, say after September 15, because the size of the stranger will be about the same as that of the queen which is to be replaced, and the bees will not be surprised at her not laying eggs.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

ROSS-SHIRE NOTES.

RAIN, RAIN, RAIN.

[6817.] Like most other parts of the U.K., we have experienced something like a nightmare season. Uncared-for hives have yielded absolutely no surplus, and even under the most favourable conditions results compare badly with those of recent years. I had some colonies storing in two, three, and even four racks during the brief spell of honey-gathering; but, alas! the weather broke again, and I fear that Northern bee-men will be unable to "boast" of either weighty supers or purses this season. Personally, I cannot speak of anything better than between 30 lb. and 40 lb. comb-honey from even the most powerful colonies, while some failed to complete a single rack of sections.

Among the Heather.—This does not apply to the bees; they have no use for heather under present conditions. August is generally a broken month, but the current specimen has been so atrocious that the blossoms are quite guiltless of nectar secretion.

Things are so bad that stocks cleared of extracting supers the other week were shortly after noticed throwing out their young, and on examination found to be

without a drop of honey—all had gone above.

I replaced the empty frames by fully-stored combs put on each side of the brood. Contraction is absolutely necessary now. Crowd down to the actual brood-nest—if only six frames—and use solid combs of stores as dummies. If this is done, the bees must store in the sections simply for want of room below.—J. M. Ellis, Ussie Valley, August 26.

FERTILISATION OF FRUIT-BLOOMS.

[6818.] I enclose a cutting from the *Cape Argus* of July 24, and shall be glad to hear through the columns of your journal whether you can vouch for the accuracy of the statements made regarding the utter futility of attempting to work an orchard at a profit unless the tree-blossoms, &c., have been fertilised by the honey-bee. Are the incidents recalled of the epidemic in Hertfordshire and the destroying of the bees in Somersetshire in the circumstances related known to you? An answer in your excellent columns will be much esteemed.

I am a regular subscriber, and find your paper very interesting and helpful. With kind regards to brother bee-keepers at home from sunny South Africa.—A. Macdonald, Kraaifontein, Cape Colony.

"Farmers, horticulturists, and fruit-growers can keep a yard of fifty to one hundred colonies without interfering with their other work, and they will find that their busy little friends will materially assist them in getting much better crops, flowers, and fruit, besides giving a nice lot of valuable honey. Without bees, apple, pear, plum, and cherry trees, and currant and all small fruit bushes, peas, beans, &c., give small returns. Some years ago an epidemic killed off all the bees in Hertfordshire; from that time until they re-stocked the district with bees the fruit crops were run at a loss, and some while back—I think it was 1885—they accused the bees of puncturing and spoiling the apples in the Somersetshire orchards. A move was made, and as far as possible all bees were destroyed or sent away. The next year there were hardly any apples, and what were there were just as badly punctured as before. This went on for four years, and all crops fell off. An agricultural specialist was called in, and he at once proved to the foolish farmers that they had destroyed their best friend. He proved that the bees never puncture any kind of fruit; but that if fruit is punctured by insects or birds, and the juice flows out, it is naturally snapped up by the bees. Some of the farmers acted promptly, placed hives in their orchards, and were able to get their fruit-blossoms fertilised that spring and their apple trees loaded with fruit."

[It is a well-known fact that bees are necessary for the fertilisation of flowers, and that fruit-growing without sufficient bees in the neighbourhood is unprofitable. We have in our own experience known instances where fruit-trees blossomed profusely, but bore very little fruit, and only commenced to yield abundantly when bees were introduced. The cutting sent is in the main correct, but we do not remember any epidemic in Hertfordshire that killed off all the bees, or the incident mentioned with respect to Somersetshire, but the fact that bees do not puncture fruit has been satisfactorily established. Fruit farmers generally know the value of bees in fertilising blossoms, and begin to understand that without them fruit-growing would be unprofitable. In wet seasons, when bees are unable to get out, there is little fruit.—Eds.]

BEE-KEEPING IN WORCESTERSHIRE

[6819.] Having been a reader of the B.B.J. for several years, I look forward to receiving it with pleasure every week, and only wish it came oftener. I intend letting you know how we have got on in this part of the globe. The season has not been quite so bad as some speak of it in other places. The great difference in the quantity of honey obtained is, to a very great extent, in the way the bees are managed. If kept strong and in a vigorous condition the yield has been good. Some people that I know let them take "pot-luck," as they call it, and wonder why they do not obtain a large surplus of honey, and because others do they will not believe it.

Could you please let me know through the B.B.J. the name of the plant enclosed and if it is any good to the bees? I have seen them working on it a little.—Clentonian, Stourbridge.

[The plant enclosed is Baron's Mercury (*Mercurialis annua*), and is of no value as a honey-producing plant.—Eds.]

SWALLOWS AND BEES.

[6820.] While in my carpenter's shop recently I watched a swallow feeding her young, and in the fight for the dainty morsel it was dropped to the ground. On picking it up I found it was a drone. I have often seen drones under the swallows' nests, but never workers; though there can be no doubt that these birds account for a few missing queens.—W. E. E. Charter, Tattingstone, Ipswich.

REJUVENATING QUEENS.

[6821.] Mr. Avery kindly allows me to send a correction of my letter (6810, page 324) which appeared in B.B.J., August 15. He states that "what [he] pointed out . . . was that a queen which was *seemingly* of little value or unprolific could lay well under changed conditions in another hive." He also thinks "experimenting" an incorrect term. You do not notice that "a fortnight," the time I gave, is an impossible interval; it was, of course, written without reflection.—E. M. Rix, Carlisle, August 20.

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

Tested Queens.—"What is a tested queen?" asks a subscriber to the *American Bee Journal*, and Dr. C. C. Miller, in the "Question Box" (page 489), answers, "A tested queen is one which has been laying more than three weeks, and whose worker progeny all show three yellow bands, thus showing that she is purely mated. Since the days of five-banders this test is not so reliable as it formerly was, for it is possible now to have three yellow bands with some black blood."

Were it not that I have long passed the stage when *anything* in regard to "blue blood" astonishes me, I would confess to being astonished for once at the above remarkable answer. Now, dear Doctor, test any queen in your own yard by the above rigid rule, and I dare swear you have not one "tested" queen in your hundreds! I have more than once before been amazed at our venerable friend's partiality for a race which his nearly fifty years among the bees prove he admired—if at all—only in another man's yard. Perhaps the editor's pride in, and veneration for, this particular *variety* of bee tinctures the veteran's thoughts when he is answering questions in the "Old Reliable," and so there follows the fact that he preaches what he does not practise. There, Dr. Miller, don't be offended. My note is rather an interrogation than any carping criticism. Just think once, twice, thrice, please, and again tell us "What is a *tested queen?*"

Caucasians.—Opinions differ very much in regard to this race or variety of bee. Some decry them utterly, others recognise some good points in their character and deportment, while a few are quite eulogistic in their praise. Among the last is Mr. E. A. Morgan, who considers them the gentlest bee, better honey-gatherers than Italians, more prolific, and the best winterers. He predicts that even veterans, "when they test a pure strain of Caucasians, will very soon weed out their Italians, and keep none but the former." Dr. Phillips, on the contrary, says "they hardly proved themselves equal to Italians and Carniolans."

Apropos of this comparison, it may be interesting to record that at Mr. Byer's best yard "there is not a single Italian queen, the bees being all Carniolans, blacks, and their crosses. They turned their honey into one great host of young bees; the queens were so prolific that they laid all the spring even without stimulation." This with a very backward spring.

Metal Spacers.—We on this side look with amazement on the prejudice which exists in America in regard to spacing frames. Why, many still cling to the absurdly antiquated nail-spacer over there, and some even yet work with unspaced, or rather self-spaced, frames. These all disappeared in our islands a quarter of a century ago, and if they are to be seen at all now it must be in a bee-museum. The editor of *Gleanings* believes in the new and better order of things, and he has this to say on the subject: "Extracted men who use metal spacers of various sorts ridicule the very idea that such dull the edge of the uncapping-knife. One remarked that anyone who would do so must be a blundering operator." This "man of straw" has been scattered to the four winds in this country, and metal-end spacers are all but in universal use. I might have said "W. B. C." metal ends hold the field, because even manufacturers who had patent ones of their own have discarded them for this "model" frame-spacer.

The Ideal Brood-chamber.—It seems this has yet to be discovered. Here is an American's idea: "We want a *brood*-chamber for *brood*, and of such a size that the average queen can fill it with brood. If one can't do it, we will use two, for our brood-chambers must be kept full of brood. If too large to develop fully the fertility of our best queens, the brood-chamber becomes a storehouse for honey, and swarming and poor work in the sections are the result. The most satisfactory work in the supers is done by the colonies that store the least honey in the brood-chamber. If we would get the best work that our bees are capable of doing, we must keep the brood-chamber practically free from capped honey." That is exactly right. At the opening of the chief honey-flow make it your endeavour to get every comb below a solid block of brood, three-fourths of it capped and all but ready to hatch.

A Useful Tip.—A writer in *Gleanings* says: "In excessively hot weather it is almost impossible to fasten thin foundation in the sections, so I cut as many pieces as I wish to use and place them in cold water, taking them out as wanted. It

works like a charm, as the water stiffens the foundation."

Adding Combs.—Dr. Miller, in a "Straw," says: "I have strengthened weak colonies by placing in a comb of brood with the adhering bees, having used thousands of such combs, but never caged a queen, as some advise. But I am careful to give only in proportion to the strength of colony, so that the strange bees may not be in the majority. When more than one frame is given it is safer to have each comb with its bees from a different colony." Mr. Root adds: "This is correct according to our experience." To which I would add, "Yes; in the spring and early summer, but in autumn I would counsel novices to use the cage."

Queries and Replies.

[3576.] *Bees Refusing to Rear Queens.* — Will you, through your valuable journal—of which I am a constant reader—kindly answer the following questions? I have two stocks of bees that have lost their queens, and, in order to remedy this trouble, I took two frames of brood from another hive, and gave one to each of the queenless stocks, hoping that they would re-queen themselves. I examined them ten days after to see if they were doing so, but found no queen-cells. The brood appeared to be hatching all right from one of the combs given, but the brood in the other hive seemed all dead. I therefore ask: 1. What is the cause of their death, and is there disease of any kind in the piece of comb I have sent? 2. Do you advise me to buy two young fertile queens, and introduce them to the queenless stocks? 3. If so, when should I do so? A reply in B.B.J. would greatly oblige. I have kept bees for about eighteen years, and have only lost one stock in that time, and that was in midsummer from wax-moth. They were in a straw skep. I send name for reference, and sign—ANXIOUS ONE, Harrow, Middlesex.

REPLY.—1. If the frames of comb given contained eggs and larvæ of proper age for rearing queens from, it would appear that both the stocks in question had been queenless for some time past, and in consequence the queen-rearing impulse had passed away when the combs with eggs and brood were given. With regard to the comb in which the brood was found dead, we find no disease, the larvæ being simply chilled.

[3577.] *Natives v. Hybrid Bees.*—I was advised early this year to purchase a stock of Italian bees to try if they would gather more honey than the natives, but with it being such a wet season, neither colonies did any work in honey-gathering. My native stock swarmed, and this was followed by a "cast" early in July, both of which I have hived separately. The Italians also swarmed a few days after, and I lost the swarm. My apiary now consists of: (1) a swarm of native bees; (2) a "cast" from the latter; (3) the parent hive of the above; (4) the Italian parent stock. I am told that the cross-bred bees are most vicious, and will scarcely allow anyone near the hive, but in B.B.J. people advise keeping pure bees only. I am an amateur, and should be glad to know, through B.B.J., if you advise me to re-queen the last-named three hives (all of which have hybrid queens) with native queens? There is not another bee-keeper nearer here than two and a half miles. Name sent for reference.—EMILY, Stoke-on-Trent, August 19.

REPLY.—The choice of Italian bees in preference to natives, and *vice versa*, is simply a matter of opinion, experienced bee-keepers themselves holding different views on the subject. It is, however, an established fact that cross-bred, or hybrid, bees are more liable to develop viciousness than either natives or pure Italians. Our advice is to judge the progeny of the young queens by testing them this autumn, and if they show vindictiveness, re-queen the stocks, but not otherwise.

[3578.] *Feeding Bees.*—I went last year to our local flower-show, where I heard a lecture and saw bees being manipulated in the bee-tent. This interested me so greatly that I set to work to make a hive from a pattern lent me by a gentleman friend, who stocked it with bees for me in May. I have taken off two racks of sections, and now my trouble is:—1. What kind of cane-sugar to use for feeding—raw or refined? 2. I made a feeder holding about 2 quarts. How long would the bees take to empty one such feeder? 3. Would it be best to give one lot one night and one another, or finish it off in one evening? 4. When ought I to begin stimulating, and how much food should I give every day? 5. Would driven bees, bought early in September, weighing 4 lb., hived on sheets of foundation and fed up, winter well? 6. My first hive has frames parallel to entrance; my second has them the other way—which is the better method? Apologising for so many questions—DOUGLAS HUNT.

REPLY.—1. Refined cane should be used, either crystals or preserving. 2. It depends upon how many bees can get access to the feeder at a time, but a strong colony could carry all down in twenty-four hours. 3. When rapid feeding is commenced, it should be continued until sufficient food has been stored. 4. Stimulative feeding should precede rapid feeding. It should be commenced after the honey harvest, regulating feeder so that bees have access to one hole, and cease about the middle of September, when stocks should be fed up as rapidly as possible every night with warm syrup of a thicker consistency than that used for stimulative feeding. 5. Yes, if obtained quite early in September; but a heavier lot would be better. 6. Frames at right-angles to hive-entrance are preferable.

[3579.] *Dealing with Disease in "Wells" Hive.*—I send herewith a piece of comb containing dead brood, and will be glad if you will be good enough to say whether this is a case of foul brood or not? The comb is taken from one end of a "Wells" hive, which has become queenless, the other end of the hive being very strong. An answer in B.B.J. will much oblige. I sign myself—S. M., Dumfries.

REPLY.—The comb sent is not affected with foul brood (*Bacillus alvei*), but is none the less diseased. It is clearly a case of the disease known in America as "black brood." We advise burning the whole contents of the compartment of the "Wells" hive it was taken from, and not using that part again for some time.

[3580.] *Bees Attacking Dogs.*—Is there anything about the enclosed bees to indicate their being of a dangerous character? On the 13th inst. they attacked my spaniel most fiercely; the next day they attacked my terrier at 8.30 a.m. and stung her to such an extent that she died before mid-day, after suffering agonies internally. She must have swallowed some bees alive. The spaniel is getting on all right. The bees are out of my own apiary of fifteen stocks—strong, healthy, and gathering well enough, considering the season. They do not molest me.—C. M., Chatham.

REPLY.—Something special must have occurred to cause such an outbreak of stinging on the part

of the bees as described above; but once started it is difficult to stop. A full inquiry into the case should throw some light on the matter, but it is impossible to judge from a distance.

[3581.] *Dealing with Foul Brood.*—I should be much obliged for your advice in B.B.J. On examining my three stocks of bees I find they have foul brood—one badly, two hives slightly. What should I do? It has been suggested I should starve the bad lot, buy a new queen, and introduce her as soon as possible, but leave the other hives until the spring, trying a little formalin for them on the chance of the disease not spreading, as it is so slight. If I follow this plan, how am I to keep the bees in the badly-affected lot alive all the winter, as, of course, I should put them into a fresh hive and frames with no honey? I am only a beginner, and am rather disheartened by this business. I don't mind trouble if I can stamp the disease out and keep it from spreading. Is this a good time of the year to deal with it, or should I wait till spring? I thought of taking the bees out of the hive and putting them into a skep, starving them for forty-eight hours, and then putting them into a new hive, and buying a new queen. I shall do nothing till I get my reply in B.B.J., for which I shall be very grateful.—A. G., Braintree.

Reply.—Your best plan is to feed the two slightly-affected stocks with medicated syrup, prepared as described in "Guide Book." If your badly-affected colony is weak, destruction of bees, combs, frames, and quilts, together with thorough disinfection of hives, is by far the best course to pursue. If it is strong make an artificial swarm of the bees, confine them in a straw skep, and feed on syrup medicated with naphthol beta. Destroy frames, combs, and quilts, and thoroughly disinfect hive. After forty-eight hours' confinement the bees may be united with one of the other lots, as it is too late to start one such lot on frames of comb-foundation.

[3582.] *Uniting Swarms and Stocks.*—I shall be much obliged if you will give me your advice under the following circumstances: I have sixteen frame hives, and sixteen swarms in skeps that I have had from the first-named stocks this season. I do not want to keep the skeps, and so would like to drive and unite the bees now in them to those in frame-hives. I cannot tell which is the parent hive of any of the swarms, and therefore ask: 1. Do you think I shall be successful in the uniting by using scented syrup, and following the instructions in the "Guide Book"? 2. Is it imperatively necessary to find and take away the queen of the driven bees? 3. As the stocks now in the frame-hives are moderately strong, we propose doing the work about the middle of September. Is this time too late? 4. Is there any way of trapping the queen-bee, as it is rather precarious picking her out when the bees are entering the hive? Awaiting your reply, and thanking you in advance—R. K., Burford, Oxon.

Reply.—1. Much the best plan is to unite with flour, as fully described on pages 105 to 108 of new edition of "Guide Book." This has quite superseded the old way of using scented syrup, as not being so likely to induce robbing. 2. No; but it is always better to remove the older or less valuable queen, as one would be destroyed, and it might be the younger and better one. Unless the queens have been superseded the old ones would have accompanied the swarm. 3. We would advise doing it as early in September as convenient. 4. No; but if the bees are thrown out on a sheet in front of the hive, and carefully watched as they enter it, the queen can easily be picked out. If the skeps are driven, there should be no difficulty in capturing the queen as the bees run up into the driving skep.

[3583.] *Velocity of Revolution in Extractor.*—May I be allowed to ask for a reply in your columns to a question which has always seemed to me to be of the highest importance? What is the most suitable speed to run the extractor to obtain the maximum of dryness with the minimum of damage to the comb; and also, for what length of time should this speed be maintained? Perhaps it is misleading to ask the most suitable speed, as an answer in revolutions per minute must necessarily depend on the diameter of the extractor and the weight and area of the comb. I will therefore put the question in this way:—What is the most suitable pressure between the comb and the wire frame of the extractor? Hoping for a reply in an early issue, I remain—W. F. S., Shipston-on-Stour.

Reply.—The most suitable pressure is between about 20 lb. and 25 lb., or four to five times the weight of comb, assuming this to be 5 lb. With the centre of the comb working at a radius distance of 6 in. at 20 lb. pressure, the revolutions would be 152 per minute, and at the higher pressure 171. Of course, if the radius distance is greater, the number of revolutions must be diminished, otherwise the combs would be destroyed.

[3584.] *Uniting Driven Bees.*—I should esteem it a favour if you would kindly inform me in your next issue the best way to unite driven bees for travelling in boxes, as I have sold some, and have to unite three or four lots together. Thanking you in anticipation—John Stone, Oxon.

Reply.—If the bees are all driven into skeps on the same day, you can unite them by shaking as many lots as you require on to a sheet. Prop up the front of the box, and the bees will all run up together. This should be done towards evening on the day that the bees are driven. When all the bees have run up into the box, it can be fastened up for travelling, taking care to provide ventilation.

[3585.] *Uniting Bees.*—I had intended taking up bee-keeping in a small way, but owing to a gentleman leaving the neighbourhood I was induced to buy all his bees, numbering seventeen stocks, five of which were in movable-frame hives, and the remainder in boxes and skeps. I tried to obtain the services of a bee-expert, but, notwithstanding having offered to fetch him, take him back, and pay him for his services, I failed to get him to put my bees straight after removal. 1. I wish to get all the bees that are in skeps and boxes into frame-hives, and, if possible, to unite two lots to make stronger stocks, but fewer in number. How best can I do this? 2. If I fill the hives to receive them with frames of full sheets of foundation, will they obtain enough honey to last them the winter, or shall I fit into the frames some of the comb with honey and brood from the skeps and boxes? 3. When uniting, how best can I take one of the queens and place in a hive which is queenless? 4. Might I trouble you with another query on something which rather puzzled me? Noticing one of my stocks very quiet, with scarcely any bees leaving or entering the hive, I examined it and found it queenless. While doing so a cast issued from another skep, and, while in the air, another issued from another hive. Both joined and settled in a cluster. Thinking this a good opportunity for re-queening my hive, I gave scented syrup to the bees in hive and swarm and put them together. Next morning I found two queens dead outside the hive. What should I have done in this case? A reply in next issue of the B.B.J. would much oblige—M. A. K., Hambledon, August 20.

Reply.—1. Your best plan is to drive the bees from the skeps and boxes in the way described fully in "Guide Book." Two or three lots can then be united to your colonies requiring strengthening.

Or you can unite three or four lots, and put them into hives fitted with comb-foundation, and by liberal feeding they can be built up into stocks. 2. No; they will have to be fed up with syrup or honey. With comb-foundation so cheap, it is not worth fitting old combs into the frames, the former being much more satisfactory. 3. When you are driving your bees, you can watch for the queen as she runs up, and place her in a queen-introducing cage. If your hive has been queenless for some time, if possible introduce some frames of hatching-brood, as bees are liable to "ball" the queen if there are no young bees in the hive. 4. You ought to have removed one of the queens, and made an artificial swarm of all the bees in the queenless stock by brushing them off the combs into an empty hive. All the bees should have been dusted with flour and shaken on the sheet in front of the hive, when the bees from stock and casts would mix and go up together. Flour is much more satisfactory for the purpose than scented syrup, which is rarely used now.

[3586.] *Removing Supers.*—I have a super on a hive which I wish to remove after I have placed it for a night on a "Porter" bee-escape clearer. There has been no excluder-zinc between hive proper and super. Now, if the queen should happen to be in the super, would she be able (and likely) to go through the escape into the hive? — MEL ROSÆ, Yarmouth, Isle of Wight.

REPLY.—Blow a few puffs of smoke into the super before removing it. This will probably drive the queen down if she happens to be there. Then place the super-clearer in position. If the queen remains in the super, the bees will be quiet; but if after a few minutes a commotion is heard, this would indicate that the queen was below. It is not at all certain that the queen would leave the super, especially if there happened to be any brood there.

[3587.] *Wintering Bees in Skep.*—I have a swarm of bees in a skep, and on August 17 I weighed it, and it scaled just 17 lb. (skep, bees, comb, and honey). Do you think this is heavy enough to winter them in, or would you advise placing the skep in a hive on ten frames, with full sheets, and feeding them up, or driving them out and putting in a hive? They are a strong lot (a stray swarm), which, I presume, came out of a building near by, where bees have been for years, and are no doubt a wild lot to deal with. Do you think good honey will be extra dear owing to the bad season? I am only a beginner this year, and a regular reader of the B.B.J. I find bee-keeping a very interesting pastime, as I have to manage the bees where I work, for the Countess of Lathom, The Rosery, Welwyn. — ALBERT BATES, Codicote, Herts.

REPLY.—Unless your skep is a small one, it is too light for safely wintering the bees in, especially as this has been a bad season and bees have not had much chance of storing surplus. Examine the hive to see if it is filled with comb, and if you find this to be the case, feed up the bees, giving them 10 to 12 lb. of syrup. If you wish to transfer the bees to a frame-hive, you should do this in spring, according to the method recommended in the "Guide Book." It is too late to do so now satisfactorily.

[3588.] *Extracting from Shallow-frames.* — I should be much obliged if you would let me know in the B.B.J. under "Queries and Replies" whether it is right to extract honey from the unsealed combs of shallow-frames. I have got a good deal unsealed this year; or shall I only extract from sealed ones?—G. W. J., St. Martin, R.S.O., Cornwall.

REPLY.—You can extract all the honey, but you will have to allow it to ripen by keeping it in a warm place at a temperature of 80 deg. Fahr. The thin, liquid portion of honey which floats on the top may be used for feeding bees, as it would be liable to ferment in the jars.

[3589.] *Returning Swarms to Parent Hive.*—Kindly inform me of the best method to adopt to return swarms or casts to parent hive? Should they be first hived for a day or two, and then united, as described in chap. xviii. of "Guide Book"? Or would it do to put the box in which they have been secured on top of parent hive?—BEGINNER, Cumberland.

REPLY.—1. First swarms can be returned to parent hive, after removing all queen-cells in this, by propping up the front of the hive and shaking the swarm out on to a board sloping towards the entrance, just as you would hive in the way recommended in the chapter on "Hiving Bees." 2. Hive a cast in the usual way, and very early next morning, before work for the day has begun, prop up the entrance of parent hive, and return the cast as recommended for hiving swarms, when the surplus queens will be found thrown out. The above plans are much better than putting box in which bees have been secured on top of parent hive.

PRESS CUTTING.

BEES IN SWITZERLAND.

To the Editor of the Isle of Wight County Press.

SIR,—May I add a few remarks to the report on "the bee disease" in your issue of the 22nd inst? The word "Maikrankheit" merely means "May sickness," called by the French "mal de mai" [as already stated in the *County Press*], and its symptoms certainly closely resemble our own Island experiences. A few years ago Professor Ed. Bertrand, of Nyon, a well-known authority, presented me with his book on Swiss bee-keeping, and in it I find the malady fully described, "as caused probably by bees having visited dandelions and other plants after a sudden frost, the cold exercising a hurtful influence on the pollen or the nectar." In Switzerland and Germany the spring comes in very suddenly, and is liable to severe checks from bitter winds off the ice-fields in the higher mountains, hence the May disease. It was at just such a time during cold east winds, when my stocks were very strong, that they first collapsed. The disease is due to some external cause injurious to vegetation. To my mind our sea-fogs will give us the clue. They are worse than frosts. We are told by botanists that trees, &c., near the sea put on an extra thickness to their leaves to repel the attacks of salt-laden gales and sea-fog. This last spring we could see for ourselves how lamentably the fruit promise suffered in exposed situations. This will account for the disease not reaching the mainland, while the Island has of late years had more than its usual share of cold fog, and vegetation has suffered accordingly. To all this the scenes in which

I am now living provide the strongest possible contrast. This is a perfect bee-country. For very many miles in these upland valleys (3,100 ft. above the sea) pasturage is the one great feature. Knee-deep or waist-deep one may wander through countless acres of every variety of wild flowers, clovers, grasses, &c., growing in profusion, and in all these villages I have seen bee-houses, containing from fifty to a hundred Swiss hives, all packed closely together, usually in three tiers, while stocks and swarms and produce are such as we cannot hope to see at home. We cannot shut out the fogs from our valleys, as the mountains do here, or secure perpetual sunshine, but we might pay special attention to our clover sowing, and, by securing richer feeding for our bees, secure also for our farmers the better fertilisation of their crops.—R. LESLIE MORRIS, Zwei Simmen, Bernese Oberland, June 28, 1907.

Bee Shows to Come.

September 4, at Conder Green, Lancaster.—Honey Show, in connection with Horticultural and Agricultural Exhibition. Open and County Classes. Apply, T. Walmsley, Hon. Sec., Conder Green, Lancaster.

September 5, 6, and 7, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. **Entries closed.**

September 7, at Bramhall, Stockport.—In the grounds of the Bramhall Hall, by permission of C. H. Nevill, Esq., Honey Show in connection with the District Horticultural Society. Low entrance fees. Three Open Classes, with liberal prizes. Schedules from J. Sibson, Bramhall, Stockport. **Entries close August 31.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Trades' Fifteenth Annual Exhibition and Market. (See large advertisement on page iii.) **Open to all British Bee-keepers.** Entry fee in each class 1s. Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 12, at Castle Douglas (South of Scotland B.K.A.).—Exhibition of Honey and Wax in connection with the Dairy Show at Castle Douglas. Five Open Classes; Three Bottles Run (20s., 12s., and 6s.); Three Sections (15s., 10s., and 5s.); One Bottle (4s., 2s., 1s.); One Section (4s., 2s., and 1s.); Wax (5s., 3s., and 2s.). Schedules from Q Aird, Hardgate School House, Dalbeattie, N.B. **Entries close August 31.**

September 13, at Conway, N. Wales.—Annual Honey Show, in connection with the Conway Honey Fair. Open and Local Classes. Schedules from J. Hughes, Town Hall, Conway. **Entries close September 6.**

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the Fifteenth Annual Exhibition and Market of the Grocery and Kindred Trades. Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 25, at Altrincham.—Honey Show, in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. Classes for Trophy of Honey, for Best Hive, Observatory Hive with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester: Amateur-Built Hive, two Shallow Bars, Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low Entrance Fees. Schedules from Mr. J. Herbert Hall, 2, Dunham-road, Altrincham. **Entries close September 7.**

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee Produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for Honey, &c. Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover Square, London, W. **Entries close September 9.**

October 17 to 26, at Waverley Market, Edinburgh.—Honey show in connection with the Eleventh Annual Edinburgh and Midlothian Industrial Exhibition. All open classes. Beautifully illustrated prospectus, price 2d., from A. Hutchinson, 15, Leith-street, Edinburgh. **Entries close October 3.**

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

MINNESOTA (Cambridge).—*American v. British Bee-keeping.*—Without knowing when or where we have expressed "astonishment" at the prejudice of American experts against quilts above top-bars in frame-hives, we confess our inability to see any difference between the bee-space being above the top-bars or the bottom of supers. The real point of difference between the methods adopted here and in the U.S.A. is that we cover the top-bars down to confine the bees below until such times as the frames need inspecting or manipulating. In American hives the roof is flat, and there is only a bee-space between the roof-board and top-bars of frames, the bees being exposed and free to take wing when roof is removed, unless kept down by means of the smoker. There is nothing about American bee-keeping with which the Editors of the B.B.J. are not thoroughly conversant, our Senior Editor, Mr. Cowan, having travelled all over the U.S.A. many times, visiting in the course of his travels the prominent bee-men in most of the States.

JAS. SOUTHCOTT (Devon).—*Queen Thrown Out.*—It is not at all an unusual thing for bees to supersede a queen if she becomes aged, or for some reason does not lay so well as she should. The queen sent is an aged one, but otherwise quite healthy. Examine your hive to see if there is another queen in the colony, and if you find it queenless, either introduce one, or unite it to another colony having a queen. If you are able to get driven bees with a queen, you could give them this, but before doing so make sure that your stock is queenless.

CHUB AND JIM (Norfolk).—*Non-swarming Hives.*—1. The hives mentioned are not much used now, because (2) the drawers are liable to get propolised. 3. The drawers slide on runners, and floor-board is placed underneath.

NOVICE (Cowbridge).—*Naphthol Beta.*—1. This and B. naphthol are the same. We do not know the amount there is in the packet you mention, but the proportions mentioned in "Modern Bee-keeping" are correct, and should be strictly adhered to. 2. Weigh the contents of the package, and if it is ½ oz., use half the quantity of spirit; if ¼ oz., a quarter of spirit. One table-spoonful of this solution is just the right quantity for 10 lb. of sugar. Stir the solution into the syrup while the latter is still hot.

H. THOMPSON (Reigate). — *Removing Bees from House.*—Your best plan is to remove a few of the tiles and smoke the bees; then remove more tiles, until the combs are exposed. Carefully cut away the combs, one at a time, and brush the adhering bees into a skep or box, covering this with a cloth. When a certain number of bees have been brushed off and the queen secured, turn over the box on to a floor-board, prop up the front, and, as the combs are cut out, brush the bees off on to the board, when they will join the others in the hive. It is a very troublesome job, but can be done if the bees are kept under control with smoke. The bees should be utilised by uniting to a colony requiring strengthening.

H. K. IV. (Arundel).—*Foul Brood.*—1. The comb is affected with ordinary foul brood, and you were right in destroying the stock. Frames, as well as combs and quilts, should be burned. The hive should be disinfected by being either steamed, or scrubbed with boiling water and soap, then painted over with a solution of one part of Calvert's No. 5 carbolic acid to two parts of water, and when the smell has disappeared the hive will be ready for use. 2. The queen sent is a young one, but her ovaries are defective and not properly developed.

R. KENSETT (Hants).—*Showing Golden Syrup for Run Honey.*—We must not take for granted all such stories as in the cutting you send. No judge would award a prize for golden syrup if he knew anything about his business. We should require better evidence than a mere newspaper paragraph before we believe that an "exhibitor had won many prizes for his exhibition of fine golden syrup as run honey."

DR. MARTIN KUCKUCK (Pontresina).—*Fertilisation of Queens.*—You will find the particulars you allude to respecting fertilisation of queens on pages 183 and 184 of B.B.J. for May 9.

Suspected Combs.

G H. M. (Kent).—Brood in comb is chilled only, so far as we can judge from the sample received, which was covered with mould when examined.

DOUBTFUL (Yorkshire).—After a considerable amount of trouble and unavoidable delay, we are able to say there is no foul brood in comb sent, but the stock is apparently affected with "May disease."

J. R. (Herts.).—There are no symptoms of any disease in comb. The "yellow matter" mentioned is the ordinary excreta, which may be forced out by pressure of the abdomen of bees which have recently died. It appears to be a case of death from starvation.

Honey Samples.

HEATHER (Sidmouth).—Sample is good in flavour, though rather thin. It is from mixed sources, but the fact of its having a pronounced heather flavour shows that it cannot rightly be called "pure clover-honey," there being no heather flavour in the latter.

G. W. B. (Much Hadham).—Flavour of sample very fair, but the honey is thin and poor in colour. It also would need straining before it could be shown.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

10-FRAME HIVE, with Super worked out, capital geared Extractor, takes Standard and Shallow Frames, ½ gross lb. Bottles, screw caps, 20 Shallow Frames, "W. B. C." Ends, Foundation, Smoker, 4 doz. "W. B. C." Ends, Veil, &c. Bargain, £2.—CROSBY, 38, Melbourne-street, Worcester. b 86

DRIVEN BEES, with Queen, 3s. per Stock; after September 12, 2s. 6d.—WADY, Dorset Apiary, Broadstone. b 88

WANTED, GOOD SECTIONS AND LIGHT RUN HONEY, for cash. — R. CARTER, Chartridge, Chesham, Bucks. b 87

MESSRS. STONE AND SONS, Chemists, Exeter, are buyers of English Beeswax, in large or small quantities.—Write, stating quantity and price required. b 85

WANTED, Honey in Sections.—Quote price delivered to THE TODDINGTON ORCHARD CO., Winchcombe, S.O., Glos.

TWO STRONG STOCKS, Frame Hives, "W. B. C." Pattern, guaranteed healthy. Cash or Deposit. 20s. each; 2 carriage paid. — WARREN, JUN., Great Horwood, Winslow, Bucks. b 70

FOR SALE, or EXCHANGE, Driven Bees, for Sections, Standard or Shallow Frames, or Foundation.—BARNES, Burwell, Cambs. b 73

FOR SALE, any quantity Driven Bees, 1s. lb; send boxes.—ROUSE, Expert, Rochford, Tenbury. b 72

HONEY, light coloured, 1907, 56 lb. 32s., cwt. 60s.; also 1906 crop, at 56s. cwt. (sample 3d.), to clear; 3 gross "F. F. G. B. Co.'s" ½-lb. Screw Jars, 1s. doz., complete; any quantity sent.—DALTRY, Latimer-street, Oldham. b 75

25 STRONG STOCKS, in "W. B. C." Hives, £1 each.—ERIC BENNETT, Heacham. b 74

FOR SALE, 24 Section Racks, new, fitted with Sections, half sheets Foundation, tin Separators, 4s. each; postage 10d.—DE MAINE, Kings Stagg, Sturminster Newton, Dorset. b 77

PLUMS.—The very best selected Pershore Egg Plums, 12 lb. 2s., 24 lb. 3s. 9d.; Victorias, 12 lb. 2s. 6d., 24 lb. 4s. 6d.; carriage paid; in strong box.—WOODWARD, Fruit Grower, Fladbury, Worcestershire. b 76

WANTED, EXTRACTOR, Cowan's "Rapid," or other recognised make; Ripener and Strainer; good condition essential. Approval.—L. WHITE, Hailsham, Sussex. b 71

12 OLD HEALTHY STANDARD COMBS, wired, suit Driven Bees, 6d. each.—ARTHUR, 226, West George-street, Glasgow. b 68

HEALTHY DRIVEN BEES, with fertile Queen, 5s. per lot; strong 3-Frame Nucleus, 1907 Queen, 8s. 6d. Exchange Honey in Bulk. — W. WOODS, Normandy, Guildford. b 69

STRAWBERRY PLANTS, fruit 1908, Royal Sovereign, Latest of All, and Leader, price 3s. 100, post free; Chapman Honey Plants, 2s. doz. —SMITH, Cuba House, Parliament-road, Ipswich. b 78

GUARANTEED HEALTHY DRIVEN BEES, young Queen, 4, 6, or 8 lb. lots, 1s. lb, f.o.r.; boxes free; immediate delivery.—ATKINS, Coleshill-street, Atherstone. b 81

GOOD HONEY WANTED. State price, or exchange for new Frame Hives.—RUSHTON'S HIVE FACTORY, Bedford. b 80

STRENGTHEN YOUR WEAK STOCKS with guaranteed healthy Driven Bees, 1s. 2d. lb.—ELKINS, Willow-grove, Salisbury. b 82

FOR SALE, several Strong Healthy Stocks, in Standard Framed Hives, £1 each.—D. MARSHALL, Cropwell Butler, Notts. b 67

WANTED, Address of makers of "Euralite." Will Exchange Italian Virgins mated with Blacks for healthy Driven Bees.—THOMAS, Pwllerochan, Pembroke. b 65

Special Prepaid Advertisements.—*Continued.*

QUEENS, CHOICE 1907, bred from my Non-Swarming Stocks, 3s. 6d. each. — TAYLOR, Boldmere, Wylde Green, near Birmingham. b 66

DRIVEN BEES on Brood-combs, 1s. 6d. lb. Wanted, Honey, 30s. cwt.—KEATLEY, Four Oaks. b 64

TWO VERY STRONG HEALTHY HIVES BEES, 30s. each.—ROSEHURST, Pannal Ash, Harrogate. b 63

40 YEARS' EXPERIENCE AMONG THE BEES, Healthy Driven lots, 4s. 6d., good lots.—DENNETT, Whitchurch, Hants. b 62

FOR SALE, good Stocks Bees, from 6 to 10 Frames.—BAKER, Betteshanger, Dover. b 61

POCKET FOLDING KODAK, perfect, £1, or exchange for Honey.—MARTIN, Bee-keeper, Wokingham. b 60

3 HIVES OF BEES FOR SALE, or exchange for anything useful.—COLLINGS, Crescent-road, Bromley, Kent. b 84

WANTED, New Sections, first quality, also Extracted Clover.—State price, carriage paid, with sample, to WM. PAUL, Bee Farm, Abington, Lanarkshire. b 83

READY IMMEDIATELY, a few lots healthy Driven Bees, 1s. lb., carriage paid; boxes returnable.—HEMMING BROS., Standlake, Witney. b 79

HEALTHY DRIVEN BEES, commencing August 1, 3s. 6d. per lot, with Queens; boxes to be returned. Delivery at once. Cash with order. —T. PULLEN, Ramsbury, Hungerford. a 34

FINEST QUALITY Light-coloured Extracted Honey (1906 crop), in 28-lb. tins, 8d. lb., f.o.r.; 5-cwt. lots and upwards, 70s. cwt., f.o.r.—C. DUNN-GARDNER, Fordham Abbey, near Soham, Cambs. b 56

WANTED, by married man, at Michaelmas, Situation to Manage Apiary or Apiary and Poultry Farm; good character, experienced.—"H.," c/o "Bee Journal." b 58

GUARANTEED PURE HONEY, light colour, mostly Clover, 28-lb. tins 14s. 6d., cwt. 56s.; sample 2d.—ANDREWS, 74, Gladstone-street, Peterborough. b 36

HEALTHY DRIVEN BEES, with good Queen, 5s., package returnable; extra Queens, 2s. 6d. each.—JOHN P. PHILLIPS, Spetchley, Worcester. b 46

CHAPMAN HONEY PLANTS.—Strong plants, to blossom 1908, 12 3s., 6 1s. 9d., package free; Seed, 6d. and 1s.—JOHN P. PHILLIPS, Spetchley, Worcester. b 47

FOR SALE, Twelve Stocks Healthy Bees, on 10 frames each, in joiner-made "W.B.C." Hives, all new last year, and well painted. Lots to suit purchaser. Owner deceased.—Apply, Mrs. POGSON, Holme-road, West Bridgford, Nottingham. b 54

SEVENTEENTH SEASON.—Healthy Driven Bees, with young Queen, in 4-lb. lots, at 1s. 3d. lb., boxes returnable, carriage paid, or charged 1s.; also young Fertile Queens, at 2s. each, with introducing cages, post free.—R. BROWN, Flora Apiary, Somersham, Hunts. b 45

CLOVER HONEY, guaranteed pure, £3 cwt.; sample 3d. Deposit.—GILBERTSON, 43, High-street, Annan, Dumfriesshire. b 50

FOR SALE, Apiary of 17 Bar-Frame Hives, 2 Stocks, in Boxes, with appliances, healthy. Price £28.—Particulars, X., care of "Bee Journal." b 59

HEALTHY DRIVEN BEES, and their young Queen, at 3s. 6d. per lot, or 1s. 3d. per lb., not less than 4 lb. lots; box returnable.—E. GARNER, Broom, Biggleswade, Beds. b 42

NEW SECTIONS WANTED, first quality, cash. —SMITH AND CO., Cambridge-street, Hyde Park. b 43

Special Prepaid Advertisements.—*Continued.*

FINE TESTED 1907 FERTILE ENGLISH QUEENS, of my hardy prolific strain, 3s. 6d. each, guaranteed healthy and safe arrival.—WHITING, Valley Apiaries, Hundon, Clare, Suffolk. b 44

STRONG HEALTHY DRIVEN BEES, with fertile Queens, for sale, 1s. 2d. per lb., cash with order.—HELLARD, 51, St. John-street, Bridgwater, Somerset. b 53

WANTED, SIMMINS'S "CONQUEROR" HIVES, secondhand. — HULBERT, 16, Manor-place, Paddington, W.

BEST LIGHT CLOVER ENGLISH RUN HONEY, in any quantity, required by the BATH AND SOMERSETSHIRE DAIRY CO., LTD., Bladud Buildings, Bath, 48s. per cwt., free on rail. Send small sample. b 15

BEAUTIFUL Young Fertile Golden Queens, 4s. each.—O. KNIGHT, Epney, Stonehouse, Glos. a 83

FOR SALE, 500 Young Fertile Pure Carniolan Queens, 4s. each; also 500 Young Fertile Caucasian Queens, 7s. each; cash with order.—HAUNSCHILD, Weissbach-by-Pulsnitz, Saxony.

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

WANTED, for Scientific purposes, DEAD QUEEN BEES, and WORKER HORNETS. Will brother Bee-keepers oblige?—HERROD, Apiary, Luton.

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester.

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw-cap jars, 77s. gross, 21s. ¼ gross; ½ lb. ditto, 45s. gross, 13s. ¼ gross; Honey in bulk, 48s. cwt.; samples, carriage paid, 8d. Further prices and particulars on application.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 74

HONEY JARS.—We have contracted largely for special well-finished machine-made screw-top jars, each washed and wrapped in paper, complete, with caps and cork wads, 15s. 6d. gross, 43s. 3 gross; ½ lb., 12s. 6d. gross, 37s. 3 gross.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 75

BRICE'S 1907 HYBRID QUEENS, tested, 5s. 6d.; Virgins, 3s.; safe arrival guaranteed.—HENRY BRICE, Brigstock-road, Thornton Heath, a 13

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

"COME TO CANADA."

$7,000 will buy Profitable Wholesale Honey Business, well established, with unlimited expansion. Honey building 75 ft. long; capacity of bottling room 2,500 lb. a day; fine packing-room. Also fine brick house, large stable, and nearly 9 acres of the best of land, with seventeen different kinds of apples; fine shade trees and hedges. A lovely home in the best location in a nice village of 1,200 inhabitants. Also the home apiary and three out apiaries, of over 300 colonies, and about 500 hives. Can add to revenue by keeping cows and growing strawberries. Good reasons for selling.

G. A. DEADMAN, Brussels, Huron Co., Ontario, Canada.

Editorial, Notices, &c.

DERBYSHIRE B.K.A.

ANNUAL SHOW.

The twenty-fifth annual show of the Derbyshire Bee-keepers' Association was held at Osmaston Park, Derby, on August 28 and 29. Glorious weather prevailed on both days, which, under the trying circumstances of this abnormal summer, was a rare treat, and fully appreciated by a large attendance. Owing to the wretched season in Derbyshire, the holding of a show was at one time thought to be impossible, but, luckily, bee-keepers from all parts of the country, by sending their produce, helped to make a success of what undoubtedly would have been a dismal failure.

The honey and bee section was situated in the west avenue, next to the working dairy, the manipulating-tent being erected immediately behind the honey-tent, a way being made from one to the other, which greatly added to the number of visitors to the bee and honey section. Classes for observatory-hives were well filled, and formed the usual attraction.

Five splendid trophies were staged, which were all greatly admired, and in which the awards were keenly contested. The section class and the two classes for novices—usually well filled—were very much below the average, and it naturally followed that the extracted (local) honey classes were only moderate.

The open section class, though not large, contained some very fine exhibits, while the open class for extracted honey was one of the finest ever seen at a Derby county show. The judges' task was by no means a light one, it being found necessary to award two extra prizes owing to the keen competition.

An examination for the B.B.K.A. third-class certificate was held during the afternoon, Mr. Peter Scattergood being the examiner. He also officiated as judge in the bee and honey section, making the following awards:—

MEMBERS' CLASSES.

Observatory-hive (Single Frame) with Bees and Queen.—1st, J. Pearman, Derby; 2nd, C. Spencer, Ashleyhay; 3rd, C. Clarke, Codnor.

Observatory-hive with Bees and Queen.—1st, C. Spencer; 2nd, W. H. Bird, Burton; 3rd, S. Durose, Burton.

Trophy of Honey in any Form. — 1st, J. Pearman; 2nd, W. H. Bird; 3rd, C. Spencer; r., S. Durose.

Twelve 1-*lb. Sections.*—1st, J. Stone, Cubley; 2nd, C. Spencer; 3rd, J. Pearman.

Twelve 1-*lb. Jars* (*Light*) *Extracted Honey.*—1st, J. Stone; 2nd, W. H. Bird; 3rd, J. Pearman; h.c., S. Durose; c., C. Spencer.

Twelve 1-*lb. Jars* (*Dark*) *Extracted Honey.*—1st, J. Willson, Shirebrook; 2nd, W. H. Bird; 3rd, J. Pearman; c., S. Durose.

Six 1-*lb. Sections.*—2nd, J. Stone; 3rd, J. Willson. (No first prize awarded.)

Six 1-*lb. Jars Extracted Honey.*—1st, J. Stone; 2nd, A. T. Salt, Mickleover; 3rd, J. Willson.

Beeswax.—1st, W. H. Bird; 2nd, J. Pearman; 3rd, J. Stone.

Six 1-*lb. Jars Granulated Honey.*—1st, J. Pearman; 2nd, J. Willson; 3rd, W. H. Bird.

Six 1-*lb. Jars Heather Honey.*—1st, J. Pearman; 2nd, F. S. Metcalfe, Burton; 3rd, W. H. Bird.

OPEN CLASSES.

Twelve 1-*lb. Sections.*—1st, J. Nicholson, Langwathby; 2nd, W. Patchett, Cabourne; 3rd, T. S. Holdsworth.

Twelve 1-*lb. Jars Extracted Honey.*—1st, J. Stone; 2nd, T. S. Holdsworth, Lincs.; 3rd, W. J. Cook, Binbrook; extra equal 4th, S. Durose and H. W. Saunders; v.h.c., F. Harris, Sibsey; h.c., J. Berry, Llanrwst.

Twelve 1-*lb. Jars Granulated Honey.*—1st, W. H. Bird; 2nd, S. Durose; 3rd, J. Willson.—R. H. COLTMAN, Hon. Sec.

SHROPSHIRE B.K.A.

ANNUAL SHOW.

The annual show of honey was held by the above association in "The Quarry," Shrewsbury, on Wednesday and Thursday, August 21 and 22, in conjunction with the Shropshire Horticultural Society's exhibition, and as usual attracted a large crowd of visitors, the tent in which the exhibits were staged being packed during the whole of the two days. The quantity of honey shown was not so great as last year, owing to the unfavourable season; but some of the classes were well filled, and the quality was quite up to the average, many of the samples being of exceptional merit. The judges were the Rev. T. J. Evans, Rock Ferry, and Mr. F. H. Taylor, Chorley. The full list of awards made is as follows:—

OPEN CLASSES.

Twenty-four 1-*lb. Sections.*—1st, J. Carver, Wellington; 2nd, S. Cartwright, Shawbury.

Twelve 1-*lb. Sections.*—1st, J. G. Nicholson, Cumberland; 2nd, J. Clay, Wellington; 3rd, W. Patchett, Cabourne, Lincolnshire; h.c., E. C. R. White, Salisbury.

Twenty-four 1-*lb. Jars Extracted Honey.*—1st, J. Boyes, Cardiff; 2nd, R. Morgan, Cowbridge; 3rd, S. Cartwright; h.c., W. H. Brown and J. Carver.

Twelve 1-*lb. Jars Extracted Honey.*—1st, J. Berry, Llanrwst; 2nd, R. Morgan; 3rd, H. Dilworth, Kibworth, Leicester; h.c., J. Clay; c., J. Astbury.

Twelve 1-*lb. Jars Medium-coloured Honey.*—1st, H. Dilworth; 2nd, J. W. Mason, Orielton, Pembroke; 3rd, E. C. R. White, Newton Toney, Salisbury.

Twelve 1-*lb. Jars Dark Honey.*—1st, E. C. R. White; 2nd, Miss J. Hurst, King's Heath, Birmingham; 3rd, P. Jones, Chelmick, Church Stretton.

Single 1-*lb. Jar Extracted Honey.*—1st, R. Morgan; 2nd, W. H. Brown, Wellington; v.h.c., H. Dilworth, J. Boyes, H. W. Saunders, R. W. Lloyd; h.c., S. Cartwright; c., A. Bateman.

Single 1-*lb. Section.*—1st, W. H. Brown; 2nd, James Clay; h.c., W. Patchett.

MEMBERS' CLASSES.

Twenty-four 1-*lb. Sections.*—1st, J. Clay; 2nd, W. H. Brown.

Twelve 1-*lb. Sections.*—1st, J. Carver.

Twenty-four 1-*lb. Jars Extracted Honey.*—1st, S. Cartwright; 2nd, J. Clay; 3rd, W. Powell, Longley; h.c., W. H. Brown.

Twelve 1-*lb. Jars Extracted Honey.*—1st, J. Carver; 2nd, S. Cartwright; 3rd, W. H. Brown; h.c., Mrs. W. Powell, E. Brookfield.

ARTISAN MEMBERS ONLY.

Twelve 1-*lb. Sections.*—1st, J. Hammond, Acton Scott; 2nd, W. Rowley, Bomere Heath.

Twelve 1-*lb. Jars Extracted Honey.*—1st, H. Hallmark, Hodnet; 2nd, T. H. Frost, Ellesmere; 3rd, J. Mills, Shavington; h.c., T. Boulton; c., L. Powell.

Six 1-*lb. Jars Extracted Honey.*—1st, H. Hallmark; 2nd, T. H. Frost; 3rd, L. Powell; h.c., J. Mills and E. Brookfield.

COTTAGER MEMBERS ONLY.

Six 1-*lb. Sections.*—1st, J. Bright, Cardington; 2nd, S. Croxton, Hope Bowdler; 3rd, G. Buttar, Market Drayton.

Single 1-*lb. Section.*—1st, J. Bright; 2nd, S. Croxton; 3rd, G. Buttar.

Twelve 1-*lb. Jars Extracted Honey.*—1st, G. Croxton, Grinshill; 2nd, J. Buttar; 3rd, P. Glover, Isle Gate, Shrewsbury; c., J. Bright.

Six 1-*lb. Jars Extracted Honey.*—1st, J. Chetwood, Wem; 2nd, G. Croxton; 3rd, G. Buttar.

Single 1-*lb. Jar Extracted Honey.*—1st, J. Chetwood; 2nd, G. Croxton; 3rd, G. Buttar.

OPEN CLASSES.

Honey Trophy.—Equal 1st, W. H. Brown and J. Carver.

Complete Frame-hive.—1st, G. Rose, Liverpool; 2nd, W. P. Meadows, Leicester; 3rd, Little and Cooper, Shrewsbury.

Collection of Bee-appliances. — 1st, W. P. Meadows; 2nd, Little and Cooper; 3rd, G. Rose.

Beeswax.—1st, E. C. R. White; 2nd, A. S. Hoare, Saltash, Cornwall; v.h.c., W. Patchett; h.c., J. Clay.—S. CARTWRIGHT, Hon. Sec.

HONEY-SHOW AT HORSHAM.

The show of honey held by the Horsham Horticultural Society took place on August 29, in splendid weather, though, owing to the adverse season, entries were fewer than last year. They numbered sixty-one, and, considering the season, the average quality of the exhibits was very good. Mr. F. B. White, Redhill, and Mr. R. B. Dart, West Horsham, acted as judges, and made the following awards:—

Honey Trophy.—1st, J. R. Freeman; 2nd, S. Bailey.

Twelve 1-*lb. Sections.*—1st, G. Atkins; 2nd, C. E. Everett; 3rd, S. Bailey.

Twelve 1-*lb. Jars (Light) Extracted Honey.*—1st, J. Wadey; 2nd, J. R. Freeman; 3rd, M. Killner.

Twelve 1-*lb. Jars (Medium) Extracted Honey.*—1st, M. Killner. (No other award.)

Twelve 1-*lb. Jars (Dark) Extracted Honey.*—1st, S. Bailey; 2nd, T. Duncan; 3rd, W. Thornton.

Six 1-*lb. Jars Granulated Honey.*—1st, J. R. Freeman; 2nd, J. H. Stephens.

Shallow-frame for Extracting.—1st, S. Bailey; 2nd, T. Duncan.

Beeswax.—1st, T. Eversheld; 2nd, J. R. Freeman.

Honey-cake.—1st, Mrs. C. E. Everett; 2nd, Mrs. Eversheld.

Honey-vinegar.—1st, S. Bailey; 2nd, J. R. Freeman.

COTTAGERS' CLASSES.

Six 1-*lb. Sections.*—1st, J. Weller; 2nd, S. Bailey; 3rd, G. Atkins.

Six 1-*lb. Jars Extracted Honey.*—1st, J. Weller; 2nd, W. Wright; 3rd, G. Atkins.

Beeswax.—1st, T. Duncan; 2nd, W. Thornton.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

PROGRESS IN APICULTURE.

[6822.] Some would fain ask, Are we really advancing, or are we only progressing like the bees in the fable? A swarm had been placed in a new hive, where they had un-

limited scope for carrying out new ideas, upon which the young bees cried out eagerly for innovations. "These old folks," said they, "have been going on building cells of a hexagonal form from time immemorial. Let us try a new plan and build round cells." Alas, they found the new plan a waste of time, space, and material, while instead of being an improvement it proved an inconvenience. "Ah!" said the queen-bee, "try them square." "Eureka!" cried the bees, and unanimously they set to build them so, but to their grief and chagrin discovered that they broke down under the weight of honey. Many shapes and sizes were tried, all turning out a perfect failure. At last one young bee exclaimed, "Why, let us try *six-sided* cells," and the proposal was carried out, *nem. con.*, when they found it a perfect success. "It takes young folk to find things out," cried all the bees, seemingly oblivious of the fact that such cells were always the correct ones.

Is our advance only of this order? I think not, and I give proof. Just twenty-five years ago a work was published called "Practical Bee-farming." Let us glance at a few items to see what was thought to be *advanced* apiculture even in such comparatively modern times. The author says: "The only hive we have found successful is one not more than 12 in. square internally. We advise our readers never to use supers; let the bees manage their own affairs and let out swarms as often as they like. Take your surplus by taking out a bar at each end of the hive, and extract, after which return it to the bees to be refilled. At the end of the honey-harvest take out every bar in succession and run them through the extractor. Do not leave a pound of honey in the hive. Syrup will answer every purpose for winter food. Supering with bell-glass or square box in nine cases out of ten prevents swarming, and thus is penny wise and pound foolish. So never employ the dreaded super or the eke." Straw hives receive lengthy attention in this work, and the mode of construction is illustrated; while even "skep bonnets" have a page and a picture all to themselves. "We never fear to shade a hive, since Virgil recommends it." Sapient wisdom, surely! "Taming" vicious bees by erecting a "bogle" in front of the hives is advocated. But I forgot: some believe in a "bogie man" even to this day.

Feeding was an important feature in this "modern" system of management, and we have the following words of wisdom on this subject: "Never nourish your bees from beneath. All wickedness and evil come from *below*, so in bee-hives; every good comes from above, so in bee-hives." And yet the writer did not believe in supering! "Barley sugar" is advised for feeding, and a recipe given for its manufacture. Fumigation by puff-ball is recommended. A good, prosperous hive is said to number 15,000; a queen matures in *fourteen* days. The author passed through an experience of foul brood with "desolating effect." It was introduced by an Italian queen. He set small value on Italians, but speaks highly of the Italian extractor. Curiously, he advises extracting to be carried on in a *cool* place. The eyesight of the bee, he says, is very imperfect; but perhaps it was his knowledge that was at fault. His denunciation of the sulphur-pit is commendable, and he pictures a bee-keeper who "suffocates and burns the unhappy martyrs (bees), and then subscribes to various charities and calls himself a philanthropist!" Verily, we have reason to rejoice that our lot has been cast in happier apicultural times.

Three Sting Remedies.—"The only positive and immediate cure for a bee-sting is *tobacco*. Applied as directed, it works like a charm. Moisten common tobacco, and work it until the juice appears quite dark; then rub on stung part for about five minutes, and it will cure in every case." "Looking over the bees in an apiary in Shropshire, a bee stung me just beneath the right eye. The owner, a widow woman, went into the house, and, bringing out her bottle of hair-oil, began to rub the contents into the wound, with the happiest results. Ever since, when stung, I have applied *plain olive-oil*. The pain disappears as if by magic."

My attention was lately drawn to the fact that Longfellow, in "Hiawatha," speaks of the bee always following in the steps, or rather in advance, of the white man—"Wheresoe'er they move, before them swarms the bee, the honey-maker." As if a consequence, he also tells us that the *plantain*—the "White Man's Foot"—also springs up, a flower hitherto unknown there: how the juice of this plant pressed on the wound was long looked on as a specific cure for a bee's sting. Many other plants, however, were believed to accomplish the same purpose, if the leaf were bruised and rubbed over the wound. I presume almost any alkaline matter would tend to counteract the effects of the acid of the sting, so there may be an element of truth in the belief. The above quotation shows that bees moved "out West" quicker even than man, and we find the same idea in W. C. Bryant's writings, as the following short quotation will show:—

> The bee, a more adventurous colonist than man,
> With whom he came across the Eastern deep,
> Fills the Savannas with his murmurings,
> And hides his sweets, as in the golden age,
> Within the hollow oak.

Women as Bee-keepers.—Our late revered and highly-honoured President, whose demise is such a sad blow to apiculture, had the good of our industry very much at heart, and during a long life did much to advance its interests in many ways. She seemed to make it the guiding rule of her life that it is noble only to *do* good, and I fear that we will never see her like again. Very many other noble ladies in our land take a quiet interest in the pursuit of bee-keeping, and advance its interests substantially. Would that there were more of them!

I rejoice to observe that as each successive list of "graduates" is issued ladies form a very large proportion. This is as it should be. It is an occupation eminently suited in many ways to the gentle hand and tender heart of woman. In such operations as preparing racks of sections, fitting in foundation, clearing surplus, glazing comb-honey, preparing honey for exhibition, woman's deft and dexterous touch is far ahead of that of any "mere man." In selling honey she excels, as is proved by the testimony of many writers of "notes" under the heading of "Homes of the Honey-bee." In book-learning the published lists show she can hold her own; in lighter manipulation she takes a place in the front seat; and, when fired with enthusiasm, she can talk bees, write bees, and manage bees with a skill equal to that of any man, as witness Miss Emma Wilson, the present Vice-President of the American National—but a Scotswoman!—D. M. M., Banff.

HELPING BEE-KEEPERS IN THE ISLE OF WIGHT.

PROPOSED OFFER OF DRIVEN BEES, ETC.

[6823.] Some weeks ago your correspondent Mr. L. S. Crawshaw suggested that means should be found to assist those bee-keepers in making a fresh start whose apiaries had been decimated by the late epidemic among bees in the Isle of Wight. Mr. Crawshaw's suggestion was followed by an offer of two swarms from "H. D. D., Basingstoke," and the Editors of the B.B.J. promised £5, provided the Hants and Isle of Wight Association opened a fund and organised its distribution. Apparently this excellent idea hangs fire for want of someone to undertake the task of organising and distributing, as up to the present there has been no response from the above-named association. A few days ago I mentioned to Mr. Owen Browning, Kingsomborne, the fact that an Isle of Wight bee-keeper of thirty years' experience had lost all his bees. Mr. Browning promptly sent him a lot of driven bees weighing 5 lbs., free of charge, and I know these were greatly appreciated. This incident, together with other promises of a similar nature, has caused me to think that there are numbers of B.B.J. readers who would be willing to do likewise, providing the thing were properly organised. The season for driven bees is just now in full swing, and to delay would mean to lose the opportunity. I should be very sorry to see this movement "fizzle out" because of the labour involved in the necessary correspondence. It so happens that by my visit of three days among the bee-keepers in the Isle of Wight I am not only in possession of the actual position of affairs, but have the names of nearly forty sufferers, most of whom have lost all.

My suggestion is, therefore, that I may have the privilege of organising and distributing presents of driven bees to such bee-keepers in the island as need help in restocking their empty hives, as, knowing the position of affairs, I should be able to put donors in touch with the losers. There are plenty of hives, but what is required are bees, frames, and foundation. Let your readers make their offers to me, either of bees, frames, foundation, skeps, or stocks, or money for the purchase of bees, carriage, &c., and as soon as the scheme is completed the Editors of the B.B.J. could appoint someone to examine all correspondence and acknowledgments, and publish the list of donors and a statement of accounts in the B.B.J.

With regard to the principle upon which the scheme should be based, I suggest making a present of bees, &c., in proportion to the losses, without reference to the position occupied by the respective recipients. The movement should not be one of charity, but rather of friendly and sympathetic interest in the craft.—JOHN SILVER, Croydon Grove, Croydon.

[Whatever form the suggestion of rendering help to bee-keepers who have suffered from the late epidemic among bees in the Isle of Wight may take, the idea is in every way commendable. But we must repeat our former statement that the Hants and Isle of Wight B.K.A., as an association of many years' standing, representing the bee-keepers of the island, is the proper body to take up the matter in question, and might justly resent outside interference. Why the association has, so far, taken no steps in response to the suggestion made in our issue of July 18 it is not for us to say, but we will see that this issue of the B.B.J. is brought before the notice of the hon. secretary of the association, who will, we hope, send a line of reply for publication in our columns.—EDS.]

BEE-NOTES FROM EAST SOMERSET.

[6824.] The season here has generally been a very bad one. After a long spell of cold weather we had hot sunshine for

a week or two, which excited the bees, caused them to start brood-rearing in earnest, and also helped them out of their stores. This spell of fine weather proved fatal to many stocks, as we had it cold and sunless, windy and wet, for two months following, when they could do nothing. Swarms were late and stocks were very short of food, and feeding was still wanted right up till June 20. There have been plenty of late June and July swarms, but they have been small and of little value. Honey is conspicuous by its almost entire absence, being very scarce indeed, and I find stocks are now very short of stores. They will require liberal feeding to keep them alive during the winter. Forage has been exceptionally abundant, but weather has spoiled everything. Trusting we shall have a better season in 1908.—R. LITMAN, Castle Cary.

ISLE OF WIGHT BEE-DISEASE.

SUGGESTED CURE.

[6825.] Mr. T. Stapleton, Gwinear, Cornwall, is of the opinion that the disease described in your columns is identical with an outbreak which occurred in his apiary about 1904. He cured it by wedging the hives up on all four sides, thus giving abundance of air, and this treatment succeeded in every case where adopted early enough. His experience leads him to believe that it is a foul-air disease. Mr. Stapleton is a thoroughly practical bee-keeper of long experience, and if the disease be the same as his bees had, the cure need be sought no longer by bacteriologists.—W. J. FARMER, Redruth.

[We regret we cannot share the views of our correspondent (or of Mr. Stapleton), nor can we see any analogy between the disease in question and a possible "foul-air disease," as Mr. Farmer describes it. The "cure" suggested is opposed to all investigations hitherto made, and now being made, by eminent bacteriologists. The subject is of such importance that it needs more than the opinion of a bee-keeper of long experience (but who is presumably unskilled in the scientific side of the question) to carry weight where the trouble is admittedly caused by disease-producing germs.—EDS.]

SWARMS BUILDING COMBS IN TREE.

[6826.] With reference to the letter in B.B.J. of August 22 (6815, page 334) re swarm building combs in tree, I may say that I know of a small swarm which has made its home on a strong stem of furze 2½ ft. from the ground. The bees have built several combs, and, I hope, gathered a bit of honey. I intend to deal with them in the course of a few days. There was also a case in the B.B.J. two or three weeks ago about a swarm in a hedge, but that, like mine, is evidently not in so exposed a situation as the one "A. E. B." refers to.—WALTER WRIGHT, Market Rasen.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Foul Brood and Remedies (page 296).—I have nothing new to contribute to this somewhat well-traversed subject, although I hope some day to do so, as I am going as thoroughly as possible over the old ground. So far, however, I should like to add my tribute to naphthol beta as a remedial agent. I am more than half convinced that if all stocks were stored for winter on syrup properly medicated with this specific, the disease would be not only hindered, but eventually stamped out. It would, at least in such districts as are served by expert visitation, almost entirely obviate the destruction of combs.

Prevention of Swarming (page 297).—It is curious that this letter advocating re-queening in early spring as a preventive of swarming should immediately follow one in which swarming is detailed as occurring with a young fertile queen! This shows that there is no infallible rule of this nature, but that its general obtainment is rather due to the natural weakening of the stock hive by swarming. In other words, the bees will cast with virgin queens under natural conditions if they intend after-swarming; otherwise a second swarming season in the one year is to be supposed. *Prime swarm*, *cast*, and *virgin swarm* have each their own significance; but there is, I believe, no term for this unusual swarming with a young queen after fertilisation.

Expert Certificates (page 297).—If it be true that there exists a first-class expert who is expert only in name it is a reflection upon those of us who pretend to this degree which is grievous to be borne! And a greater reflection upon the examiner who passed such a one for his third-class certificate. As an examiner, my view is very strongly held that the third-class certificate should only be given to a thoroughly practical man. Theory is dealt with in the higher grades, but a candidate should by his work thoroughly satisfy the examiner that he can do all reasonable manipulations, and that he has more than a mere theoretical acquaintance with disease. He should, in other words, be a man capable of either curing a foul-broody stock or of removing bees from a hollow wall. I can only say that I set great store by my much-coveted and earliest-gained certificate.

Swallows (page 297).—Does a swallow swallow bees? It is difficult to believe that a swallow on the wing could deal effectively with a bee, and it is certain that it could not swallow many, if any, whole. Its prey is much smaller. May we have the matter proved by more than this circumstantial class of evidence? This is, at least, an ingenious cure for the supposed evil, and is the same device as that adopted in fish hatcheries to prevent the ravages of kingfishers amongst the fry.

Curing Disease (page 303).—I venture to think this advice of Mr. Farmer's to cut out diseased cells is not good. Ordinary bee-keepers would not make a success of it, and it would be impossible to carry out the process thoroughly without damaging the septum. This would mean a shocking set of combs very soon. Such a procedure may be all right where combs are renewed annually whether they want it or not, but it is both more work and more risky than treating such cells with a chemical.

The same writer appears to commend hive prosperity produced by feeding as a preventive of robbing; but, if one may believe the fathers, this is hardly orthodox. I have known cases where feeding has induced robbing, and usually the aggressor has been a prosperous stock. Much would appear to want more, even in the bee-world!

Bees Killing Queen (page 304).—It is doubtful if these are the right conclusions from the data. Such otherwise hopelessly queenless bees do not usually treat an unmated virgin in this fashion. She may, of course, have been injured in her subsequent flights, but it is more than doubtful if a queen a few hours old would leave the hive to head a first swarm, even if she could fly at all, let alone a long distance. Recently there has been some evidence that first swarms have been headed by virgin queens, whilst the old queen has remained; but it has not been fully substantiated. In the face of the universally-attested custom it is more than doubtful. Again, if there were no fertile queen present the first hatched virgin would probably mature fully before leaving; whilst if the young queen were the sole representative of her kind the bees would not swarm in haste, to repent at leisure. Perhaps Mr. Silver will let us know the after-history of this hive. Did he introduce another queen, or give unsealed brood to see whether they were queenless after the death of this queen?

Prevention of Swarming (page 305).—This question, like the poor, seems to be always with us. For my part, I am not satisfied that I desire to prevent it. I wish every one of my hives would cast a rousing swarm, and I be there to see. No, not all at once! We should be interested to have Mr. Rouse's plan, as the re-queening in April does not seem practicable. But perhaps he will not be roused.

Salient Points (page 315).—Is it a fact that wind-swept places are more liable to disease? I wonder. This ought to be good news to the anti-ventilation folk. Is it a fact that the wax in a set of used brood-combs is worth more than the same number of sheets of foundation? Where is the "secret" in utilising driven bees? Is it to make up for the ravages of foul brood, or the wear-and-tear due to much comb-building? Might we have Mr. Farmer's "oft-published plans," which must be scattered through many numbers of the B.B.J., put into succinct form in one article, so that those who appear so over-critical of them may have a really good time for once?

Queries and Replies.

[3590.] *Surplus Queens.*—I shall shortly be given (if I want them) some twenty or more fertile queen-bees. My own modest apiary consists of only two hives. How can I keep the surplus queens till such time as I can dispose of them, or even, if necessary, through the winter? I can do ordinary carpentering, but do not feel inclined to buy a sufficiency of driven bees, comb, &c., to keep so many mothers occupied.—CÆSAREAN, Gutmarg, Jersey.

REPLY.—You can keep queens in queen-cages, but only for a short time. If you wish to keep them over winter, you will have to provide each with a hive and bees as well as combs. If you can get driven bees, and unite three or four lots together, you could now build up stocks from them by removing the queens and introducing one of the others. Surplus queens at this time of the year are valueless except for introduction to queenless stocks.

[3591.] *Dealing with Foul Brood.*—I wrote a week ago asking for your kind advice about my bees, which were seen by the expert and pronounced strong, but with foul brood. I am very anxious to get to work to improve matters (I don't want to burn my bees), and am only waiting to get my reply in the B.B.J. before following the "Guide Book" directions. Why I write now is to ask:—1. Must I destroy all my shallow frames and combs after extracting the honey, or can I use them next year? They are in good order, and I have a good many of them. 2. Also, I see advised fumigating with formalin. What does this mean? 3. The expert told me I could use formalin solution. Kindly say how and in what quantity. 4. I am now going to starve my worst hive, and then get a lot of driven bees with queen, and put them together into a new hive with new foundation. Will it hurt the brood if I spray the old combs with phenyle and water, as advised in the "Guide Book"? I hope this is not too long a letter, but I am very fond of my bees, and very keen to cure them.—A. G., Braintree.

REPLY.—1. No; but after extracting they should be disinfected by either formalin gas or spraying with soluble phenyle solution, No. 8 in "Guide Book." For disinfecting with formalin gas you require a proper apparatus, which is hardly worth your while to get for so small a number of hives.

2. Formalin is put into a box fitted with a tube, which is set over a spirit lamp, the heat causing the formalin to evaporate. The whole is placed in a suitable box, on which the hives or supers are so arranged as to allow the formalin vapour to pass through them. 3. Saturate a piece of cloth with a solution of ½ oz. formalin to 10 oz. of water, and place on floor-board. Renew from time to time. 4. You must only spray the combs, and we should not advise spraying brood at this time of the year, as being likely to chill it.

[3592.] *Honey from Diseased Combs.*—1. I am sending for your inspection a piece of comb which, I am almost certain by the information given in the "Guide Book," contains foul brood. Will you kindly let me know in the next B.B.J. whether it is or not? The stock is fairly strong, but has not gathered any surplus this summer. 2. There are enough stores to carry the bees well through the winter, and if they are infected with the pest, as I am afraid they are, what shall I do with the honey? Is it fit for human food? 3. Two of the last combs are only partly drawn out, and have not had any brood in them. Shall I destroy these also? Apologising for troubling you so much, please let me have the right information in your next issue, for which I shall be anxiously looking. I send name for reference, and sign myself—J. B. B., Carmarthenshire.

Reply.—1. The sample of comb is affected with foul brood, and you should follow the treatment recommended in "Guide Book." 2. No, it is not fit for human food unless boiled, to destroy all the germs. Your best plan is to boil the honey, and dilute it, then medicate it with naphthol beta or soluble phenyle, as recommended in "Guide Book," and use it for feeding the bees. 3. Yes, it is safer to do so.

[3593.] *Leaving Supers on Hives.*—Could I trouble you for a reply to following questions? 1. If one does not mind sacrificing the honey, is it a good plan to give those stocks which are short of stores some shallow-combs of honey in a shallow-frame box above brood-chamber when packing up for winter? 2. If excluder is not placed between the two sets of combs, will the queen commence breeding in the shallow-combs in spring? I send name for reference, and sign—Amateur, Worcestershire.

Reply.—1. Supers should not be left on the hives, as the stores ought to be as near the cluster of bees as possible in winter. If the weather keeps cold for long, and there is no honey within easy reach of the cluster, the bees may starve, although there may be plenty in the super. Your best plan is to place a super-clearer on hive, and on top of this the shallow-super containing the combs with honey. Towards evening uncap the combs in super and cover up closely; then push slide on one side, so as to admit the bees into the super, and next morning close the slide, when the bees will in a short time go below through the escape. The combs can then be examined, and the empty ones removed. This can be repeated until all the honey is carried down. It is done in the evening, so as not to induce robbing. 2. The queen would only commence laying in the supers in spring if the hive was very full of bees and the combs below occupied with brood or stores.

[3594.] *Wintering Bees.*—I am quite a beginner in bee-keeping, this unfortunate summer being my first season. Result, a strong stock but no surplus. My hive is a "W. B. C." with an adjustable floor-board, and I am at a loss as to the right method of using the air-space between brood-chamber and outer-case during the winter. 1. To pack or not to pack—that is the question, for authorities differ on this point. Cheshire is most emphatic in voting for cork-dust packing. Would you advise me to follow his advice, the outcome of much scientific research? 2. Above the entrance is a narrow strip of perforated zinc. Should the packing (if used) cover this ventilation? 3. Shall I reduce my strong stock, now fully covering eight frames, to smaller dimensions? 4. Shall I use an American-cloth quilt immediately above combs? These questions doubtless betray the ignorant apiarian, but I trust you will help me on the road to increased stocks and ultimate success. — Robt. Barker, Loughton, Essex.

Reply.—1. If yours is a cold district, we should certainly recommend packing the space between the hive and outer-casing with drugget, carpet, or paper torn in pieces. Cork-dust was used some twenty to twenty-five years ago, and did very well in permanent double-walled hives. Bee-keeping has made great progress since then, and methods adopted at that time are quite obsolete. Now that movable outer-casings are universally used as being in every respect better, cork-dust is too messy, and the larger packing is preferable. 2. Yes. 3. All combs not covered by bees on both sides should be removed. There should be sufficient bees to crowd eight frames, and if yours do so you need not reduce the hive to smaller dimensions. 4. Provide winter passages and put on quilts, a sheet of unbleached calico, and three or four pieces of drugget or thick felt. A chaff-box, utilising shallow-super, can be used, as described on page 191 of "Guide Book," nineteenth edition. Discard American cloth during the winter.

[3595.] *Fertilisation of Queen.*—Finding one of my stocks queenless a fortnight ago, I, in the usual way, gave them a frame containing some very young brood, and they have reared a young queen. Will you please say if she will be fertilised all right, as it is so late, or what will be the result?—W. C. Morgan, Lydney, Glos.

Reply.—If there are drones still in your own or neighbouring apiaries, the queen will probably have been fertilised. We have known them to be successfully fertilised as late as the middle of September. Examine your hive, and see if the queen has commenced to lay.

Bee Shows to Come.

September 5, 6, and 7, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. **Entries closed.**

September 7, at Bramhall, Stockport.—In the grounds of Bramhall Hall, by permission of C. H. Nevill, Esq., Honey Show in connection with the District Horticultural Society. **Entries closed.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Trades' Fifteenth Annual Exhibition and Market. (See large advertisement on page iii.) **Open to all British Bee-keepers.**

September 12, at Castle Douglas (South of Scotland B.K.A.).—Exhibition of Honey and Wax in connection with the Dairy Show at Castle Douglas. **Entries closed.**

September 13, at Conway, N. Wales.—Annual Honey Show, in connection with the Conway Honey Fair. Open and Local Classes. Schedules from J. Hughes, Town Hall, Conway. **Entries close September 6.**

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the Fifteenth Annual Exhibition and Market of the Grocery and Kindred Trades. Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class.

Open to all British Bee-keepers. Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 25, at Altrincham.—Honey Show, in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. Classes for Trophy of Honey, for Best Hive, Observatory Hive with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester: Amateur-Built Hive, two Shallow Bars, Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low Entrance Fees. Schedules from Mr. J. Herbert Hall, 2, Dunham Road, Altrincham. **Entries close September 7.**

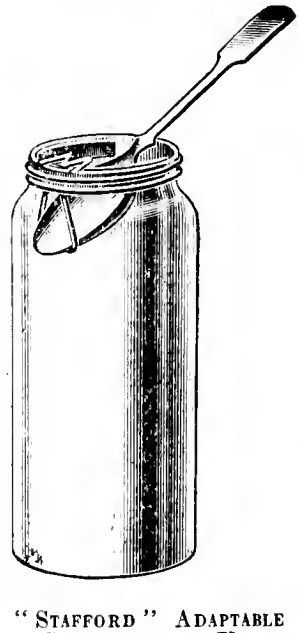
October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee Produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for Honey, &c. Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover Square, London, W. **Entries close September 9.**

October 17 to 26, at Waverley Market, Edinburgh.—Honey show in connection with the Eleventh Annual Edinburgh and Midlothian Industrial Exhibition. All open classes. Beautifully illustrated prospectus, price 2d., from A. Hutchinson, 15, Leith Street, Edinburgh. **Entries close October 3.**

NOVELTIES FOR 1907.

"STAFFORD" ADAPTABLE SPOON-REST.

Mr. S. Young, of Stafford, has sent us a sample of his admirable little appliance illustrated below, which will be found an exceedingly useful addition to the equipment of bee-keepers and honey-consumers. He sends us the following particulars regarding its use:—"This appliance is made of watch-spring steel, and thus is adaptable to different-sized jars. It is so made with a wire *rest* that when in the jar containing liquid a spoon or fork may rest upon it and not descend to the bottom of the jar into its contents, thereby keeping the handle clean. There are two projecting ends at the top which prevent the weight of the spoon carrying the appliance down the jar, the front part of which is so bent as to take the narrow part of the spoon, and answers equally well in its object, which is maintaining the handles right outside the jars. Being made in tinned steel and nickel silver, they look neat in the jar, and do not need to be removed until the jars are empty." The price is moderate, being 3d. each tinned, and 6d. nickel-plated, post free.



"STAFFORD" ADAPTABLE SPOON-REST IN USE.

PRESS CUTTING.

BEE-STINGS AND RHEUMATISM.

Dr. Jos. Wm. Gill writes to call attention to a letter in the *British Medical Journal* of February 8, 1896, in which he related the case of a patient suffering from rheumatic gout who was stung on the forehead by a bee. A severe swelling resulted, and he was very ill for a few hours; after that he got rapidly better, and the rheumatic gout left him, and for six months he had good health. The patient has since died of heart disease as the result of rheumatic fever. Dr. Gill adds that he has suggested that if the active principle of the poison ejected by the bee could be isolated for medicinal use by injection it might prove a most valuable remedy for those conditions of the blood which account for rheumatism, and perhaps gout.—*British Medical Journal.*

ALTRINCHAM SHOW.

Exhibitors should note that entries for the above close on Saturday, September 7, next, or, with double fees, up to Wednesday, September 11.

The Altrincham Show is by far the largest one-day show in the kingdom, the prize money offered being £1,850, with over 250 special prizes.

With 631 classes in the prize list, every section and variety of exhibit is most liberally catered for, great care being taken of exhibits, which are all under cover.

Three railway stations are near the show-ground, and trains from Manchester run out to Altrincham every few minutes, while the Manchester Corporation trams run *viâ* Sale and Stretford to near the entrance to the show-field.

The secretary of the show, Mr. J. Herbert Hall, 2, Dunham Road, Altrincham, will gladly forward a prize list and entry form free on receipt of postcard.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

NOVICE (Ellastone, Ashbourne).—*Name of Insect.*—The creature enclosed is not a bee, but is called *Sirex gigas*, a hymenopterous insect with a long ovipositor furnished with a straight saw, sharply toothed, for it has to pierce something harder than leaves, namely, the bark of fir-trees, where the female deposits her eggs and the larva finds itself in the midst of its food.

A. G. Warren (Isle of Thanet).—*Age of Queen.*—The queen sent is old and worn out, and has been probably superseded by a younger one. Only an examination of the combs can decide whether the colony has a fertile queen; but from the fact that the bees are not in any way disturbed we should judge that they have a queen.

Chub and Jim (Norfolk). — *Removing Uneven Combs.* — Bring all the even combs together, keeping the brood in centre, and if the hive is crowded with bees you can place a frame fitted with foundation on one side and close up with division-board. Feed gently and as soon as this foundation is drawn out add another frame, but be careful not to add more than the bees can work upon. The irregular comb can be removed now, presuming there is no brood in it, otherwise this should be allowed to hatch out.

A. T. (Ossett),—*Bees Cast Out of Hive.*—1. The young bees have died and been cast out because of scarcity in the food-supply owing to adverse weather. 2. Drone sent has probably mated with a young queen, but not necessarily, as a similar appearance is sometimes caused by excitement among the drones. 3. Bee sent is a young queen not fully developed.

Beginner (Leicester).—*Helping Beginners.*—1. The comb sent contains fresh pollen only. 2. If the damage to hive and bees was caused by culpable negligence on the part of the railway company it is simply a question of liability, which can only be enforced by reference to a County Court Judge. 3. Stocks that have been long queenless will not raise queens or accept queen-cells as a colony will if dealt with a few days after they have become queenless: hence your failure. 4. The new "Guide Book" has been on sale for the past month. 5. Bees should never be manipulated or overhauled unless there is a real need for it. You will find all the other questions fully answered in "Guide Book." Delay in reply was unavoidable.

J. D. W. (Warrington).—*Sugars for Bee-food.*—All three samples are refined sugars (probably beet), and equal in quality for bee-food, the very large crystals being the least suitable, as they will be troublesome to melt. Personally, we advocate using only guaranteed pure cane-sugar for making winter food for bees.

Miss Paisley (Cockermouth).—*Insect Nomenclature.*—The insect sent is *Odynerus parietinus*, a kind of solitary wasp which preys on small caterpillars.

Honey Samples.

Devonia (Plymouth).—Sample sent contains very little honey, if any. It is, we think, mainly composed of syrup stolen by bees from some place where jam was being made. That is the most we can say for it.

T. N. (Abbotts Ann).—Both samples are very good indeed, and fit for any show-bench. No. 1 is inclined to granulate, and No. 2, which is not quite so good as No. 1 in consistency and flavour, contains small particles of wax, which can be removed by straining through a piece of fine muslin slightly damped. The honey should be first warmed by placing jars in a pan of hot (not boiling) water. This will take away all cloudiness and make it bright and clear.

E. L. L (Beds). — Honey is only of medium quality, dark in colour. Gathered from mixed sources.

R. S. M. (Strabane).—Very good honey, of excellent flavour; quite suitable for show purposes. Gathered chiefly from sainfoin. Is too light for any class but "light extracted."

J. P. (Kingswinford).—No. 1 sample is from white clover, and is very good in colour, consistency, and flavour. No. 2 not so good, being thinner. No trace of lime, however, in it. No. 3 a delightful blend of heather and clover. This is to our mind the most palatable of the three. Nos. 1 and 2 are quite up to show standard, but both require clearing, as they are a little "cloudy" in appearance.

A. J. H. (Chadwell Heath).—Honey is quite good enough for show-bench. Should be entered in light-coloured extracted class.

C. R. S. (Ipswich).—Sample is very good white clover-honey, its only fault being that it is rather thin. It seems inclined to granulate, and should be melted and strained through a piece of thin, damp muslin before showing, as there are tiny particles of wax which quite spoil the clearness.

L. C. P. (Norwich).—The honey is so spoiled by honey-dew as to be quite useless for show purposes.

W. H. H. (Middlesex).—There is no pronounced flavour, and it is evidently from mixed sources. Lime-trees have been giving very dark honey, especially where honey-dew has been present, and the turbidity of the sample would lead one to suppose that there must have been some honey-dew gathered with the nectar. It is very thin.

Suspected Combs.

X. Y. Z. (Devon).—There are no indications of black brood in sample, but foul brood is developing in combs sent. As it is not of long standing, a cure might be effected by following the instructions in "Guide Book."

S. G. (Ipswich). — Comb is affected with black brood, not foul brood, most of the cells are partly filled with hard pollen.

Alder (Surrey). — The sample sent is a characteristic specimen of foul brood, though evidently not of long standing. Treat according to instructions given in "Guide Book."

T. (Stamford).—It is impossible to tell without seeing the combs what the disease is, and as there are only a few cells affected, your treatment should stop infection from them. When you can get a piece of comb out of the hive, we shall be glad to examine it and advise. All that is known about the various diseases of bees is contained in the new edition of "Guide Book."

J. (Bridge-of-Allan).—Sample of comb is badly affected with foul brood.

Manxman (Isle of Man). — There is nothing in comb but hard pollen. As there is no sign of brood of any kind, and two queen-cells are in process of formation in comb, you should examine stock at once, as it is evidently queenless.

P. R. (Settle).—Comb is affected with foul brood. Treat the stock as directed in "Guide Book."

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

NOTICE THE LARGE ADVERTISEMENT in next week's "Bee Journal" for patent Spoon Rest; it will interest YOU.

10 OR 12 LOTS OF BEES, 9d. per lb.; customers find boxes and pay carriage. — COOPER, 74, North-street, Halstead, Essex. c 3

DRIVEN BEES, strong, healthy lots, with 1907 fertile Queens, 5s. lot; also 1907 laying Queens, 2s. 6d.—THOMAS BRADFORD, Expert, 21, Little Park-street, Worcester. a 89

DRIVEN BEES, 1s. 3d. lb., or 3s. 6d. lot, or exchange for Sections, Standard, Shallow Frames, and Foundation, in Flat.—BARNES, Burwell, Cambs. c 5

FINE PURE BLACK MINORCA COCK, COCKERELS, and 1906 PULLETS. Sell, or exchange for Driven Bees or Honey. — RICHARDS, Thurlby, Wallington, Surrey. c 7

Special Prepaid Advertisements.—*Continued.*

FOR SALE, several choice Colonies my well-known strain English Bees.—PERCY WILKINS, Bee Farm, Letcombe Regis, Wantage. c 1

14 STRONG, HEALTHY STOCKS, in Bar-Frame Hives, Brood Chambers, full of Honey, 3 empty Hives, Skep, and all appliances, £9 10s., bargain; owner giving up bee-keeping. Inspection invited.—F. BRANFORD, Ironbridge, Salop. b 99

PAYING GUESTS.—Gentleman and his wife desire to be received in Rectory or Vicarage, South or Western county preferred.—T. C. W., c/o "Bee Journal" Office. b 98

SPLENDID LARGE RIPE PLUMS, at 2s. per 14 lb., packages free, and carriage paid; satisfaction guaranteed. — R. BROWN, Flora Apiary, Somersham, Hunts. b 94

FOR SALE, Strong, Well-made Rustless Honey Extractor, 12s.; Ripener, 10s.; both nearly new.—SHACKLETON, Thorner, Leeds. b 92

SALE, SMOKER, never used. Cost 3s. 6d.; accept 2s. 6d.—E. HERSEE, London-road, Arundel. b 89

FOR SALE, Sladen's "Golden Prolifics," mated with Blacks, guaranteed healthy, one 5-Frame Stock, 11s.; two Queens, 5s. 6d. each.—POTTER, 73, Seaview-road, New Brompton. b 90

FOR SALE, TEN STOCKS OF BEES, six Standard Frame Hives, Extractors, Foundation, new Frames, fourteen Section Racks, large quantity of appliances, cheap; owner going abroad. — Apply, H. ADAMS, Nash, Stony Stratford. b 91

1907 ITALIAN HYBRID QUEENS, 4s. each; "Universal" Hive, only used two months, 9s. 6d.; "W. B. C." Hive, 13s. 6d.; guaranteed healthy.—"ITALIA," c/o "Bee Journal." b 95

DRIVEN BEES, 4 lb. 5s., 5 lb. 6s.; healthiness and safe delivery guaranteed. — CHARLES H. BOCOCK, Ashley Apiaries, Newmarket. b 96

"ALNWICK" FEEDER, made of wood, zinc, and glass, for Starving Stocks and Driven Bees. Price 6d. each; postage of one costs 3d., two 4d., six 6d., dozen 10d.—J. BALMBRA, East Parade, Alnwick. b 97

BEE HOUSE, for twelve Colonies, with Extracting Room, £6; Bee House, for fifteen Colonies, £6; both detachable; Colonies on Frames, 10s. to 16s.; empty Hives, cheap; Rapid Feeders, 1s.; 14-lb. Honey Tins, 3d.; Sections, in Flat, 1s. 100; Section Crates, complete, 3s.; empty Crates, Brood or Shallow Frames, 1s.; Shallow Frames, half waxed, 3d., fully drawn out, 6d.; Extractor, 14s.; geared, 17s.; Ripener, 10s.; Section Cases, glazed one side, 9d. dozen; other things equally cheap. Inspection invited.—W. STANDRING, 56, Central-drive, Blackpool. c 2

FOR SALE, 4 Bar-Frame Hives, young Queens, strong, healthy Stocks, immediate sale, £5 the lot.—PARDOE, "Ridgecote," Warwick-road, Olton. b 93

I CAN CONFIDENTLY RECOMMEND young man, single, who requires situation, good experience outdoor, fruit, vegetables, bees, and capable of taking charge of Apiary.—EDWARD ROBB, Outwell, Wisbech. c 4

FOR SALE, twelve Hives of strong and healthy Bees (each on ten Frames), with appliances, 12s. 6d. each; owner leaving.—J. H. DYBALL, 155, Milford-road, St. Margaret's, Twickenham.

WANTED, GOOD SECTIONS AND LIGHT RUN HONEY, for cash. — R. CARTER, Chartridge, Chesham, Bucks. b 87

MESSRS. STONE AND SONS, Chemists, Exeter, are buyers of English Beeswax, in large or small quantities.—Write, stating quantity and price required. b 85

WANTED, Honey in Sections.—Quote price delivered to THE TODDINGTON ORCHARD CO., Winchcombe, S.O., Glos.

Special Prepaid Advertisements.—*Continued.*

25 STRONG STOCKS, in "W. B. C." Hives, £1 each.—ERIC BENNETT, Heacham. b 74

PLUMS.—The very best selected Pershore Egg Plums, 12 lb. 2s., 24 lb. 3s. 9d.; Victorias, 12 lb. 2s. 6d., 24 lb. 4s. 6d.; carriage paid; in strong box.—WOODWARD, Fruit Grower, Fladbury, Worcestershire. b 76

HEALTHY DRIVEN BEES, with fertile Queen, 5s. per lot; strong 3-Frame Nucleus, 1907 Queen, 8s. 6d. Exchange Honey in Bulk. Strong Healthy Stocks, in Straw Skeps, heavy with Heather Stores, 12s. 6d., 13s. 6d.; Fertile Queens, 2s. 6d., guaranteed.—W. WOODS, Normandy, Guildford. b 69

QUEENS, CHOICE 1907, bred from my Non-Swarming Stocks, 3s. 6d. each. — TAYLOR, Boldmere, Wylde Green, near Birmingham. b 66

40 YEARS' EXPERIENCE AMONG THE BEES. Healthy Driven lots, 3s. 6d., good lots.—DENNETT, Whitchurch, Hants. b 62

3 HIVES OF BEES FOR SALE, or exchange for anything useful.—COLLINGS, Crescent-road, Bromley, Kent. b 84

READY IMMEDIATELY, a few lots healthy Driven Bees, 1s. lb., carriage paid; boxes returnable.—HEMMING BROS., Standlake, Witney. b 79

FINEST QUALITY Light-coloured Extracted English Honey (1906 crop), in 28-lb. tins, 8d. lb., f.o.r.; 5-cwt. lots and upwards, 70s. cwt., f.o.r. —C. DUNN-GARDNER, Fordham Abbey, near Soham, Cambs. b 56

WANTED, by married man, at Michaelmas, Situation to Manage Apiary or Apiary and Poultry Farm; good character, experienced.—"H.," c/o "Bee Journal." b 58

HEALTHY DRIVEN BEES, with good Queen, 5s., package returnable; extra Queens, 2s. 6d. each.—JOHN P. PHILLIPS, Spetchley, Worcester. b 46

CHAPMAN HONEY PLANTS.—Strong plants, to blossom 1908, 12 3s., 6 1s. 9d., package free; Seed, 6d. and 1s.—JOHN P. PHILLIPS, Spetchley, Worcester. b 47

SEVENTEENTH SEASON.—Healthy Driven Bees, with young Queen, in 4-lb. lots, at 1s. 3d. lb., boxes returnable, carriage paid, or charged 1s.; also young Fertile Queens, at 2s. each, with introducing cages, post free.—R. BROWN, Flora Apiary, Somersham, Hunts. b 45

FOR SALE, Apiary of 17 Bar-Frame Hives, 2 Stocks, in Boxes, with appliances, healthy. Price £28.—Particulars, X., care of "Bee Journal." b 59

HEALTHY DRIVEN BEES, and their young Queen, at 3s. 6d. per lot, or 1s. 3d. per lb., not less than 4 lb. lots; box returnable.—E. GARNER, Broom, Biggleswade, Beds. b 42

NEW SECTIONS WANTED, first quality, cash. —SMITH AND CO., Cambridge-street, Hyde Park. b 43

FINE TESTED 1907 FERTILE ENGLISH QUEENS, of my hardy prolific strain, 3s. 6d. each, guaranteed healthy and safe arrival.—WHITING, Valley Apiaries, Hundon, Clare, Suffolk. b 44

WANTED, SIMMINS'S "CONQUEROR" HIVES, secondhand. — HULBERT, 16, Manor-place, Paddington, W.

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester.

Editorial, Notices, &c.

THE CONFECTIONERS AND ALLIED TRADES' EXHIBITION.

HONEY SHOW AT THE AGRICULTURAL HALL.

The fifteenth annual International Exhibition and Market of the Confectioners and Allied Trades commenced on September 7 at the above hall, and remains open till the close of the present week.

The honey competitions were again staged in the North Gallery Annexe, and thus had the advantage of occupying a position which enabled those interested in the bee-section of the exhibition to inspect the display in comfort when compared with the unavoidable crush and hustling in the crowded avenues in the body of the hall.

Though the entries were not quite so numerous as last year, they were very satisfactory considering the disastrous weather of the past season. The first class worthy of notice was that for "trophy of honey and bee-products," and it was no doubt a satisfactory experience for the judges that the liberality of the schedule enabled them to give each of the four exhibits a good money-prize in return for the trouble taken in staging trophies well worthy of the awards.

Messrs. Jas. Lee and Son secured first prize for a well-set-up trophy of comb and extracted honey, the whole being of excellent quality. As no flowers were allowed on the trophies this year, they wore a more sober aspect than usual, but suffered little, if at all, on that account. In Mr. W. Kitson's second-prize display advantage was largely taken of the "honey products" item of schedule, cakes, sweets, condiments, preserves, mead, vinegar all being included. This exhibitor had spared neither time nor trouble in the effort to make his trophy look well, moulding descriptive lettering in beeswax, and making it attractive regardless of cost. Mr. Frankenstein took third prize for a workmanlike trophy, on which appeared excellent honey from various sources, put up in marketable form such as would suit a practical bee-keeper who places quality first. The same may be said of Mr. Marshall's fourth-prize display, which was a very good one.

The first attempt to establish a class for "beginner's outfit" was rather a disappointment. It was introduced in compliance with requests made by visitors to previous shows held under the same management, in order to give persons whose interest had been aroused an idea of the requirements necessary for making a start with bees and approximate cost of same; yet only two firms exhibited, and one prize was awarded, mainly because of the second exhibitor failing to take the absolutely necessary precaution to fit the frames even with "starters" of foundation. We must defer mention of remaining classes till next week.

Mr. W. Broughton Carr, London, and Mr. Ernest Walker, Woking, officiated as judges, and made the following

AWARDS.

Outfit for Beginners in Bee-keeping (3 entries).—1st, Jas. Lee and Son, Highbury, London. (No other prize awarded.)

Display of Honey (Comb and Extracted) and Honey Products, shown in suitably attractive form for a tradesman's window (5 entries).—1st (£4 and B.B.K.A. Silver Medal), Jas. Lee and Son; 2nd (£3), W. J. Kitson, Stanstead, Essex; 3rd (£2), O. R. Frankenstein, St. James Terrace, Regent's Park; 4th (£1), T. Marshall, Ivy Cottage, Sutton-on-Trent.

Twelve 1-lb. Sections (17 entries).—1st (£1 15s. and B.B.K.A. Bronze Medal), T. Marshall; 2nd (£1 5s.), J. Nicholson, Langwathby, Cumberland; 3rd (15s.), Jas. Lee and Son; 4th (10s.), W. Patchett, Cabourne, Caistor; 5th (5s.), G. Hunt, Hawton Road, Newark; v.h.c., E. H. Pankhurst, Meopham, Kent; F. R. Ford, Burwell, Cambs.; E. Robb, Outwell, Wisbech; and E. C. R. White, Newton Toney, Salisbury; h.c., F. Lasbrook, Tidworth, Andover; R. Brown, Somersham, Hunts; and C. W. Dyer, Compton Crossing, Newbury.

Twelve 1-lb. Heather Sections (2 entries).—1st (£1), J. Waddell, Alwinton, Northumberland; 2nd (15s.), T. Marshall.

Three Shallow Frames Comb Honey for Extracting (5 entries).—1st (£1), Jas. Lee and Son; 2nd (15s.), J. Herrod, The Manse, Sutton-on-Trent, Notts.; 3rd (10s.), C. J. Burnett, Hester Street, Northampton.

Twelve 1-lb. Jars Light-coloured Extracted Honey (27 entries).—1st (£1 15s. and B.B.K.A. Certificate), John Berry, Llanrwst, N. Wales; 2nd (£1 5s.), R. Brown; 3rd (15s.), Mrs. F. Harris, Sibsey, Boston; 4th (10s.), J. Boyes, Cardiff; 5th (5s.), S. G. S. Leigh, Boughton, Hants.; v.h.c., Jas. Lee and Son; A. J. Brocks, Nether Wallop, Stockbridge; Mrs. Pilkington, Brauncewell Grange, Lincs.; H. Berry, Llanrwst, N. Wales; F. R. Ford; and J. Boyes; h.c., G. Hunt; H. Dilworth, Shangton, Leicester; and C. Robinson, Palestine Grately, Andover.

Twelve 1-lb. Jars Medium-coloured Extracted Honey (26 entries).—1st (£1 5s.), S. G. S. Leigh; 2nd (£1), H. Dilworth; 3rd (15s.), J. W. Mason, Orielton School, Cardiff; 4th (10s.), J. Southwell, Lockerby, Romsey; 5th (5s.), Jas. Lee and Son; v.h.c., E. Cherrington; E. Pankhurst; A. J. Brocks; R. Godson, Tothill, Alford, Lincs.; O. R. Frankenstein; A. Barber, Comberton, Cambs.; and E. C. R.

White: h.c., G. S. Faunch, York Road, Ilford; and T. S. Holdsworth, Kirton-in-Lindsey.

Twelve 1-*lb. Jars Dark-coloured Extracted Honey* (11 entries).—1st (15s.), E. C. R. White; 2nd (10s.), R. Brown; 3rd (5s.), J. Southwell; v.h.c., Jas. Lee and Son: h.c., A. Ward, Market Harborough.

Twelve 1-*lb. Jars Heather Honey* (6 entries).—1st (£1), J. Pearman, Penny Long Lane, Derby; 2nd (15s.), J. Waddell; 3rd (10s.), O. R. Frankenstein; v.h.c., J. F. Stephenson, Newnham Terrace, Harrogate; h.c., W. Sproston, Shugborough, Gt. Haywood, Staffs.

Twelve 1-*lb. Jars Heather-blend Honey* (8 entries).—1st (£1), J. Pearman; 2nd (15s.), W. Sproston; 3rd (10s.), T. Marshall; 4th (5s.), G. Hunt; h.c., J. W. Mason.

Twelve 1-*lb. Jars Granulated Honey* (17 entries).—1st (£1 5s.), T. Marshall; 2nd (£1), Jas. Lee and Son; 3rd (15s.), C. Lodge, High Easter, Chelmsford; 4th (10s.), Miss L. Pollard, Haynford Hall, Norwich; v.h.c., J. Berry, R. Brown, R. H. Baynes, and J. Pearman; h.c., H. Dilworth and J. Herrod.

Beeswax in Cakes, Quality of Wax, Form of Cakes and Package, suitable for retail counter trade (12 entries).—1st (£1), Mrs. F. Harris; 2nd (15s.), J. Berry; 3rd (10s.), Jas. Lee and Son; 4th (5s.), J. Waddell; v.h.c., C. Lodge, and F. W. Frusher, Crowland, Peterboro': h.c., T. Marshall.

Beeswax, judged for quality of wax only (14 entries).—1st (£1), C. Lodge; 2nd (15s.), E. C. R. White; 3rd (10s.), Jas. Lee and Son; 4th (5s.), T. Marshall; v.h.c., G. Page, Holcot, Northants; R. Brown, W. G. Hills, and J. Berry; h.c., F. W. Frusher.

Certificates of Merit in the sale classes were awarded to F. R. Ford, Burwell, Cambs.; J. W. Mason, Cardiff; and R. H. Baynes.

KENT HONEY SHOW.

This annual show took place at Wye on August 14, in connection with that of the Wye Cottage Gardeners' Society, a large booth being devoted to the display of honey, bees, and bee-appliances. The attraction of the bee-show was heightened by several exhibits of beautiful flowers and decorative plants. The attendance was satisfactory, though weather interfered somewhat adversely in this direction.

With regard to the entries for honey, &c., the Kent Honey Show can (if numbers count for anything) claim to be the largest show held during the present year, the list before us showing the number to be exactly 300. Mr. A. D. Woodley, Reading, officiated as judge, and Mr. Jesse Garratt, lecturer on bee-keeping for the Kent County Council, gave demonstrations in the bee-tent at intervals during the afternoon. The following is the list of awards:—

COUNTY CLASSES.

Six 1-*lb. Sections and Six* 1-*lb. Jars of Extracted Honey.*—1st, S. Burden, Headcorn; 2nd, T. Head, Canterbury; 3rd, Rev. H. R. N. Ellison, Hothfield.

Six 1-*lb. Sections.*—1st, T. Head; 2nd, Miss King, Eastwell Park; 3rd, E. Ascherson, Charing; 4th, S. Darlington, Charing; r., A. Lepper, Wye; h.c., H. Head, Wye.

Two Shallow-frames Comb Honey.—1st, Rev. H. R. N. Ellison; 2nd, J. Bond, Wye.

Six 1-*lb. Jars Light Extracted Honey.*—1st, A. J. E. Baker, Betteshanger; 2nd, T. Head; 3rd, H. Head; 4th, W. G. Martin, Orpington.

Six 1-*lb. Jars Medium Extracted Honey.*—1st, E. R. Nash, Smarden; 2nd, W. G. Martin; 3rd, E. H. Pankhurst, Meopham; 4th, F. P. Cheesman, Sutton Valence; r., A. J. Baker; h.c., G. Back, Boughton Aluph.

Six 1-*lb. Jars Dark Extracted Honey.*—1st, E. R. Nash; 2nd, J. Bond; 3rd, W. J. Moody Smith, Pluckley; 4th, F. P. Cheesman; r., H. Head; h.c., J. Hall, Wye.

Three 1-*lb. Sections and Three* 1-*lb. Jars Extracted Honey.*—1st, H. Pankhurst; 2nd, J. Garratt, Meopham; 3rd, A. J. E. Baker; r., T. Head; h.c., A. Lepper.

Beeswax.—1st, E. Nash; 2nd, T. Head; 3rd, A. J. E. Baker; r., Mrs. Hall, Wye; h.c., A. Lepper.

Mead.—1st, Mrs. Hall, Wye; 2nd, Miss S. Amos, Wye; r., E. Cullen; h.c., H. Head.

Bee-candy.—1st, S. Burden; 2nd, T. Head; r., Mrs. Hall; h.c., E. R. Nash.

Honey-cakes.—1st, E. Cullen; 2nd, Miss M. Grieve, Stanford; 3rd, Mrs. H. Wilson; r., S. Burden; h.c., H. Head.

Display of Bee-flowers.—1st, Mrs. Hall; 2nd, W. Hills, Kennington; r., J. Chittenden, Wye.

COTTAGERS ONLY.

Three 1-*lb. Sections.*—1st, H. Head; 2nd, A. Lepper; 3rd, W. Hills.

Two 1-*lb. Jars Extracted Honey.*—1st, J. Chittenden; 2nd, A. Lepper; 3rd, A. Mills, Wye.

OPEN CLASSES.

Trophy of Bee-products.—1st, T. Head.

Single 1-*lb. Jar Light Extracted Honey.*—1st, R. W. Lloyd, Thetford, Norfolk; 2nd, F. Harris, Boston, Lincs.; 3rd, W. Patchett, Caistor, Lincs.; r., T. G. Hillier, Andover; h.c., H. W. Saunders, Thetford.

Single 1-*lb. Jar Medium or Dark Extracted Honey.*—1st, E. C. R. White, Salisbury; 2nd, J. Garratt, Meopham;

3rd, E. R. Nash; r., A. P. Short, Thornton Heath, Surrey; h.c., W. G. Martin.

Single 1-lb. Section.—1st, W. Patchett; 2nd, A. P. Short; 3rd, T. G. Hillier; r., J. Garratt; h.c., R. W. Lloyd.

Beginner's Outfit.—1st, Mrs. Seadon, Bromley; 2nd, T. Head, Canterbury.—JOHN TIPPEN, Secretary.

CHESHIRE B.K.A.

The Honey Department of the Cheshire Agricultural Society's annual show, which was held on "The Roodee," Chester, on Wednesday, August 28, was, as usual, under the management of the county Bee-keepers' Association. Though the entries were not so numerous as last year and some exhibits were not forthcoming, the exhibition was as good as could be expected in such an unpropitious season. A lecture was given by the Rev. T. J. Evans under the auspices of the County Council. The judges were Messrs. L. S. Crawshaw, Ilkley, and E. P. Hinde, Liverpool. Their awards were as follow:—

OPEN CLASSES.

Frame-hive for General Use.—1st, E. Pidduck, Alsager; 2nd, Geo. Rose, Liverpool; r., Mrs. Wm. Cartwright, Moore.

Twelve 1-lb. Sections.—1st, W. Reece, Tarporley. (No other award.)

Twelve 1-lb. Jars Extracted Honey.—1st, H. Berry, Llanrwst; 2nd, J. Pearman, Derby; 3rd, J. Berry, Llanrwst; r., W. Hulley, Northop.

Observatory-hive with Bees and Queen.—1st, E. Pidduck; 2nd, G. Rose; 3rd, H. Potts, Preston Brook.

MEMBERS' CLASSES.

Six 1-lb. Sections.—1st, W. Reece; 2nd, J. Percival, Moss Side, Warrington; 3rd, J. Astbury, Kelsall; r., E. Maxwell, Malpas.

Six 1-lb. Jars (Light) Extracted Honey.—1st, J. Astbury; 2nd, E. Maxwell; 3rd, S. Gerrard, Heswall.

Six 1-lb. Jars (Medium-coloured) Extracted Honey.—1st, T. Brocklebank, Heswall; 2nd, S. Gerrard; 3rd, C. Chadwick, Norton-in-Hales; r., E. Maxwell.

Two Frames of Comb-honey for Extracting.—1st, W. Kelly, Sandycroft; 2nd, F. C. Kelly, Hawarden; 3rd, E. Pidduck.

Beeswax (1 lb.).—1st, J. Astbury; 2nd and 3rd, H. Potts; r., E. Maxwell.

NON-WINNERS' CLASS.

Six 1-lb. Jars Extracted Honey.—1st, H. Potts; 2nd, F. Hatton, Hell Cliffe, Warrington; 3rd, T. Alyn Jones, Rhosesmor; r., C. Chadwick.

DISTRICT CLASS.

1st, J. Astbury; 2nd, H. J. Bradshaw, Ellesmere Port; 3rd, J. Griffiths, Bunbury Heath; r., W. Reece.—E. CHARLEY, Hon. Secretary and Treasurer.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not neeessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[6827.] At last we are having a few sunny days, most acceptable to farmers for the ingathering of the harvest, and welcome to bee-keepers as affording an opportunity for putting their hives into good condition for winter. I gather by the news from different parts of the country that a great deal of feeding will be required in some districts, making it plain that after such a disastrous season as that we have just gone through it will never do to treat things apicultural in haphazard fashion, but investigate every stock and carefully note its condition, for although in some few parts bees have done fairly well, all stocks should be examined, and where feeding is required give the food at once and as fast as the bees will carry it down into the brood-combs.

Clear the ground around hives of weeds, and see that each roof is rainproof. Reduce entrances to 1 in. width to give the bees a better chance of keeping out wasps, of which a goodly number are about just now. In my apiaries we trap the wasps in bottles half-filled with wine-dregs. A piece of brown paper with a hole in its centre is put over the mouth. We catch great numbers of wasps by this method.

When packing bees for winter see that every stock has a queen, and any found queenless should have a lot of driven bees with a young queen united to them. Uniting is best done by the use of a flour-dredger, making both lots as dusty as millers. It would be a waste of money to introduce a queen to a stock that has swarmed itself queenless in July, as the bees left would be aged, and another queen, if introduced, might be a week or ten days before she began to lay at this period of the year. That would mean a full month before any of her brood could be of any service as workers of the hive, and by that time winter may have set in and stopped breeding for the season. Consequently the stock would dwindle, and probably perish before the end of winter. Undeserved blame may thus be laid on the queen, introduced too late to give her a chance of showing her qualities. Superseding an aged queen by introducing a young fertile one is, of course, another matter altogether.

The Honey-harvest of 1907.—The past season has been admittedly a very poor one, but how fares the bee-keeper in the matter? Is the shortage of crop compensated by an increase in price? It seems to me a rather sad reflection on our industry that we have no market quotations —no authoritative voice that will speak out and fix the price of honey for us—and this in the greatest commercial nation in the world! Every other commodity has a quotation in the list of products as some guide to the producer what to ask for his goods. The advertisement pages of the B.B.J. this season, compared with last year, tell very plainly that there is very little honey in the country, and I find only two advertisements of 1906 honey, so that if it does not become an absolute famine, it will clear out all the old stock of previous years.—W. WOODLEY, Beedon, Newbury.

EXPERTS' CERTIFICATES.

[6828.] I notice that Mr. Crawshaw, in "Cappings of Comb" (page 355), refers again to the subject of experts' certificates. Referring to the letter of "T. A. R." (page 297), he writes:—"If it be true that there exists a first-class expert who is expert in name only it is a reflection upon those of us who pretend to this degree which is grievous to be borne." In this view all will, I am sure, cordially agree with Mr. Crawshaw; but the lazy, incompetent expert who "almost entirely allows someone else to manage his two or three hives" does infinitely less harm than the expert who is incompetent, and yet imagines, because of possessing a B.B.K.A. certificate, that he is a fully-qualified practitioner, although he may be completely innocent of any experience of the routine work of modern bee-keeping, his or her knowledge having been picked up from books or during a short sojourn with some bee-keeper.

I must beg leave to dissent from Mr. Crawshaw's opinion that this is a "great reflection upon the examiner who passed such a one for his third-class certificate." It is the antiquated and faulty system of examining candidates which is to blame, and I hope that before another season's examinations take place the B.B.K.A. will have so revised the whole system that only candidates of *proved* ability and experience will be admitted to the ranks of bee-experts. Unless this is done, I fear the office will be in danger of falling into disrepute. Mr. Crawshaw, as an examiner, holds that third-class certificates should only be given to thoroughly practical men. This is as it should be; but how can any examiner, under the present system, carry this idea into practice? Can he disqualify any candidate who does well in the examination, but who never so much as owned a colony of bees? I am not calling up an imaginary case, for we have such experts. It is quite a simple matter for an educated person, under a temporary fit of bee-fever, to read up the theory of the subject, then go to some apiary for a week or two to learn a few manipulations, and be crammed by a clever coach, until he or she comes before the examiner in all the fullness of the newly-acquired beeology. Of course, such candidates will pass, and no fault of the examiner. Most likely the bee-keeper who did the "coaching" has no foul brood in his apiary to show candidates, yet the latter can, and do, satisfy examiners that they are able not only to detect disease, but also to cure it.

Some of the certificated people have not even reached, let alone gone through, many of the phases which mark the novitiate stage of bee-keeping. For instance, brood-spreading—a favourite pastime with some—is practised in March or April as a matter of course, and when the brood dies they send it up to the B.B.J. office to see if foul brood is about, or else they call it foul brood, and proceed forthwith to cure it. Some start feeding stocks having abundance of stores with liquid food to stimulate brood-rearing at a time not far removed from mid-winter. Then, armed with their certificates, others go on tour; and so proud are they of their newly-acquired ability to find and catch queens that they feel it incumbent on them to catch all they can just to show how it is done, and exhibit the queen to the less qualified owner, with the result that many poor queens are at once "balled" by their angry subjects, and many queenless hives result. I speak of third, second, and first class experts.

Having passed the third-class examination—which may not inaptly be termed the "asses' bridge" in the study of apiculture—the rest is easy to the educated candidate. A little more "coaching for the examinations," and then very soon we have the fully-matured specimen, the "first-class expert" by examination, "holder of three diplomas," &c., ready to tour, establish and manage apiaries, rear a special strain of bees, invent a new and improved hive, successfully coach candidates through the post for B.B.K.A. examinations, or write a book on advanced bee-keeping. Really, Messrs. Editors, I seriously believe the finished bee-man is too easily made nowadays; but how unenviable is the lot of some long-suffering members of bee-associations, to say nothing of the hard-working and oft-maligned hon. secretary, on whom falls the responsibility of providing competent exponents of the craft for his association!

Many of the members of such associations are good bee-men themselves, up-to-date, practical, and alert, and take that intelligent interest born of long experience in their bees. May we hope that the premier association of its kind, the B.B.K.A., will in the near future so revise its methods of examination for expert certificates that only men or women of *recognised ability and experience* will be appointed. Modern bee-keeping demands a constant revision of all standard works on the subject to keep them abreast of the times. A higher standard is required in our literature and more ability in our experts; therefore, a stiffer and more severe test in the examinations is wanted. Especially should some test be devised by which the examiner can fix beyond a doubt the amount of practical general experience the candidate has had, and the real extent of his or her experience and knowledge of foul brood. Without experience, the candidate is worthless as an expert, although, as I have shown, some such obtain their certificates.—G. W. AVERY, Armathwaite, S.O.

[Our correspondent is apparently unaware that the subject of raising the standard—or, shall we say? "stiffening" the examinations—connected with experts' certificates was raised at the meeting of the B.B.K.A. Council held on June 20, and, "after a lengthy discussion, it was resolved to nominate a committee to go into the whole matter, and make suggestions for improved methods" (*vide* B.B.J. for June 27, page 251). If Mr. Avery can frame a practical scheme for carrying out the ideas conveyed in the above communication, no doubt it would meet with full consideration at the hands of the committee, when appointed. It would, however, be necessary to authenticate the cases of "misdoing" quoted before any value could be attached to them.—EDS.]

A NOVEL OBSERVATORY-HIVE.

[6829.] As a reader of the B.B.J. I venture to enclose a photo of a new observatory bee-hive which I have designed and built myself. If you can find it possible to spare space in your interesting little paper in which to reproduce the photo and a few explanatory particulars regarding the hive and its working it may possess interest for your readers. I think the design stands well in proportion, and at the present moment the bees are doing well in it. The points to which I would invite attention are as follow:—It has four glass windows in brood-box, so that bees can be seen at all sides when the shutters are opened. It is built on the bar-frame system, but as the hive was only experimental, the frames are not made of standard size, being slightly smaller. It is built in five sections, viz., (1) floor-board; (2) body-box; (3) super, on which all frames are fitted (unlike any other frame-hive, all the frames can be lifted at once, or as many as are wanted; this is a good feature, I think); (4) the upper body for section-rack or bell-glass; and, lastly, the roof. From the appearance of photo it would seem that the interior of hive is small at the top and wide at bottom; this is not so, a square frame of glass, in which the frames hang, being fitted inside, and thus the square shape is preserved in body-box. There is a clear space all round the interior between the square body-box and the outer-case, so that there is a certain amount of heat passing round the brood-

A NOVEL OBSERVATORY-HIVE.

chamber, the wood of outer-box not being sufficiently thick to stand the winter. I shall be interested to know if you think this hive worth patenting.—HARVEY GOODWIN, JUN., Tebay, Westmorland.

[The limited demand for observatory-hives would hardly make it worth while incurring cost of patenting.—EDS.]

WILL BEES PURLOIN EGGS FOR QUEEN-RAISING PURPOSES?

[6830.] I have to-day (August 31) had what seems to be clear evidence of a queenless lot of bees furnishing a queen-cell with an egg, evidently purloined from a neighbouring hive. Deeming the incident to be of use and interest to B.B.J. readers, I give the particulars as follows:—I have four baby mating-boxes under a pent-house in my yard. From one of these on August 3 I took a laying queen, and some ten days later destroyed two queen-cells in this box preparatory to putting in another cell from a hive from which I am raising queens. I did not, however, succeed in getting sufficient cells for my purposes, and this particular box was left queenless. On opening the box to-day I found all the three tiny combs filled up with syrup, and in the middle comb was a solitary new queen-cell containing an egg. The egg is in the normal position and stands quite upright in the cell, exactly as if deposited by a queen. I await its development with interest, for it happens that the bees in the box in question are full-blooded Italians, while in the next one (only 2 ft. away) is an old pure black queen, placed therein to keep the bees together until cells are ripe for insertion. There is, of course, the bare possibility that the egg may have been laid by a fertile worker, but it is extremely unlikely. I will let you have the sequel in due course.—THOMAS JOHNSON, Dunham Massey, Altrincham.

ISLE OF WIGHT BEE-DISEASE.

[6831.] In my note on this matter (6825, page 355) I merely reported Mr. Stapleton's experience. I expressed no views of my own, but I see no reason why foul air should not result in a so-called bacteriological disease. I have the greatest possible respect for the researches of bacteriologists; they prove that disease prevails against such organisms as are exposed to unhealthy environment. The mortality caused by consumption has been much reduced since it was discovered that foul air was the pre-disposing cause, and I firmly believe that bee-diseases have a primary cause apart from the germs that are cited as the original cause at present. I do most positively assert that every trace of foul brood has disappeared this season out of one hive in which it had a slight existence without any treatment whatever on my part. I think that Mr. Crawshaw and others who are so sceptical as to such matters would do better by keeping an open mind on the subject. Mr. Simmins has made certain claims in respect to foul-brood treatment, and I have by independent experiment proved that he is correct in many respects. Surely there should be a welcome of every point of view that is honest and sincere. Only by such open debate can we attain the truth, which is all I care for in this matter.—W. J. FARMER, Redruth, September 8.

OUTDOOR FEEDING.

A PREVENTIVE AGAINST ROBBING.

[6832.] A hint I got from reading *Gleanings* some little time ago served me a good turn to-day. It was to the effect that, at the end of the season, when bees were not flying freely, and bee-manipulations were not pleasant because of the crossness of the bees, and the likelihood of inducing robbing when opening a hive, a little outdoor feeding worked like a charm in putting the bees in a good humour and banishing, for the nonce, all thoughts of robbing. To-day being fine offered an opportunity to overhaul hives and see to their condition for wintering. I began with a strong colony and found the bees very restless, uneasy, and ready to attack one with little or no provocation. I dreaded the idea of having to overhaul two dozen hives in their state of temper at the time. I warmed some thin honey, placed it in my outdoor feeder, and very soon the bees were busy and good-tempered, so that all the rest of the hives were finished quickly without any further trouble from the bees and with no attempt at robbing, which would certainly have been started but for the food given outside. In many cases I find strong colonies on ten to twelve frames with very little honey in the brood-nests. It is surprising to find strong summer colonies in the hives, and yet come across frame after frame with little or no honey in the combs. This means that these combs will have to be filled somehow, or the bees will not get far into the winter alive. This has been positively the worst honey-season I ever experienced or conceived of. I have this year given to my bees a much greater weight of food than they have produced of surplus, and I shall yet have to feed them back almost as much in weight of food as they have yielded of honey out of the supers. Speaking generally for the Isle

of Man, as far as my experience goes, this has been a swarmless and honeyless season. My own honey-yield is not more than one-fifth of what it should be in a moderate year. I have in a good season taken five times as much honey from nine colonies as I shall get this year from double that number. But "hope springs eternal in the (bee-keeper's) breast," and my interest in the bees has not abated one whit. I am still living in hopes of a time coming when a combination of favourable circumstances will enable me to secure 400 lb. of honey from a single colony in a single season.—LANCELOT QUAYLE, Glenmay, Isle of Man, September 6.

WEATHER REPORT.

WESTBOURNE, SUSSEX,

August, 1907.

Rainfall, 1·97 in.	Minimum temperature, 42° on 25th.
Heaviest fall, ·64 on 17th.	Minimum on grass, 39° on 21st.
Rain fell on 15 days.	Frosty nights, 0.
Below average, ·62 in.	Mean maximum, 66·3.
Sunshine, 209·1 hours.	Mean minimum, 54·1.
Brightest day, 11th, 13 hours.	Mean temperature, 60·2.
Sunless days, 2.	Above average, ·1.
Below average, 8·1 hours.	Maximum barometer, 30·346 on 22nd.
Maximum temperature, 74° on 29th.	Minimum barometer, 29·691 on 15th.

L. B. BIRKETT.

Queries and Replies.

[3596.] *Bees Not Taking to Supers.*—I have a stock of bees in a flat-topped skep-hive, from which a swarm issued on June 8 last. Two days afterwards I put on another skep as a super, after fixing a queen-excluder over the hole in the parent skep. Early in July I looked to ascertain whether bees had taken to the super, and, to my surprise, there was not a bee in it. I therefore removed the excluder, thinking that probably the bees refused to pass through the zinc, and would go up after its removal. But when I looked again, the third week in August, the super was still empty, so I took it off. I may say the bees seem to have been fairly active when weather was suitable. I put several rounds of cloth, &c., at the junction between super and brood-nest to keep in the heat, and also over the super, covering the whole with an earthenware panning. My queries therefore are:—1. How is it the bees did not take to the super? 2. Did I act wisely in giving the super under the circumstances? 3. Would it be wise at this time of the year to transfer the bees into a frame-hive, and, if so, how must I proceed? I may say that from the swarm mentioned above (which was put into a frame-hive) I took sixteen 1-lb. sections a fortnight since, and they had nothing but foundation to start on in the brood-chamber. I am quite a novice with bees, this being my first year, and the failure to get any surplus from my skep-hive has a tendency to dishearten me. But any information on the cause of failure will much oblige. Name sent for reference. —PERPLEXED, Wombwell, Barnsley, September 4.

REPLY.—First let us say it can hardly be termed a failure if you have increased your single stock in a skep to two colonies, and secured 16 lb. of honey in so poor a season as that just ended. We congratulate you on having done very well. For the rest we reply:—1. It is almost useless to give supers after a swarm has issued, seeing that the skep would have lost two-thirds of its bees, and, in consequence, need no extra room. 2. No; unless in exceptionally good honey seasons, swarmed hives should not be supered. 3. Do not try transferring at this season. Leave the bees in skep for wintering, and let them transfer themselves to a frame-hive next spring, according to the directions given in the "Guide Book."

[3597.] *Dealing with Incipient Foul Brood.*—My sister, who is a member of the B.B.K.A., has five stocks of bees in frame-hives, which have recently been examined by an expert, who did not give any definite advice with regard to their condition. We find that three of the hives are slightly affected with foul brood (and had it last year), six to ten cells on each side of every frame showing the disease pretty evenly through the hives. One stock is a swarm of the present year, and is clear of disease; one other is also free from disease. The four remaining hives (other than the swarmed one) have done very well, considering the season, and have yielded 194 lb. of surplus honey, the one with most foul-broody cells doing best. There is a good deal of foul brood in the district, and we should like to clear the hives of disease, if it can be done without much loss, although it would seem that there is a good chance of their again becoming infected. 1. What do you advise, seeing that all the stocks are strong? Can we gradually eliminate the frames containing foul brood by placing them in turn above the excluder-zinc to hatch out, and feeding with medicated syrup? Is it too late in the year for bees to draw out new brood-foundation? 2. Do you advise uniting two of the stocks, also getting rid of the frames containing foul brood? 3. Is it possible to cut out the diseased cells? I suppose the spores are elsewhere, too? I presume complete disinfection or cleaning out of the cells is impossible? 4. Can drawn-out brood-foundation be bought?—Major E. M., Essex.

P.S.—I have just ordered a new "W. B. C." hive in case we should require it during disinfection of the other hives.

REPLY.—1. All combs containing foul brood should be destroyed, and remaining frames brought close together, and bees fed with medicated syrup. If the hives are very strong, by liberal feeding the bees may be induced to draw out new brood-foundation. 2. Yes. 3. Your best plan is to destroy the combs, and not trouble about cutting out cells containing foul brood. If you wish to preserve the combs, follow the instructions in "Guide Book," page 182, new edition, by spraying them with soluble phenyle solution. 4. No.

[3598.] *Bee-keeping for Profit.*—I should be much obliged if you will kindly advise me on the following questions relating to bee-keeping as a hobby and for profit. My husband and self have been used to the country, and we have also been very successful with poultry-keeping; but owing to his eyesight being affected by certain conditions in a large town, my husband thought we might be able to make about £1 weekly by keeping bees, and this sum, along with another £1 5s. we have coming in weekly, would enable us to manage. If we could rent a bungalow not far distant, I think we might find this town a good market for honey and eggs. My questions are:—

1. How many hives of bees would be required? 2. Do bees thrive better inland than near the Channel? 3. What capital would be required to bring in £1 weekly? 4. What space in garden, ground, or land would be required? 5. What is the best time of year to make a start? If you will kindly enlighten me on the above points I could then form an idea of the enterprise and the chances of success, and procure some of your books to read over while disposing of our business here and preparing for removal.—L. E., Cardiff.

REPLY.—1. It is quite impossible to say how many hives would be required to make a profit of £1 a week throughout the year, so many factors have to be considered. In our variable climate, although you may add to your income by keeping bees in some years, in others nothing may be got. Then there is a great deal in the skill of the bee-keeper and in his thorough knowledge of the business. Like farming and any other business, it has to be learnt, and where one can make it pay another would not be able to do so. Before you decide to keep bees you should get a book and study the subject; then you would be better able to decide if you could undertake bee-keeping. If you can make poultry pay, you might add bee-keeping to it; but honey-production alone cannot be depended upon for a living in this country. 2. Inland; but there are many places on the South Coast where bees do exceedingly well, especially if they are a mile or two inland. On the other hand, there are many places not suitable for bees at all, and where it would be useless to expect any profit. 3. This depends on the number of hives required. 4. Hives should be placed about 3 ft. apart. 5. In the spring by purchasing swarms.

[3599.] *Zinc as a Material for Honey-ripeners.*—A friend of mine having shown me a "honey-ripener" which he has, I am desirous of making one for myself, and am writing to ask if there would be any objection to the use of zinc for the purpose, instead of the tin-plate so much used, which soon shows traces of rust. The zinc would, no doubt, be the more durable, if not injurious to the honey.—Your opinion will be much esteemed by—ZINC WORKER, Coleshill, Birmingham.

REPLY.—On no account should zinc be used in making a honey-ripener, because honey contains an acid which, in contact with zinc, is very detrimental to honey. Use only well-tinned iron for the intended purpose.

Bee Shows to Come.

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the Fifteenth Annual Exhibition and Market of the Grocery and Kindred Trades. Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 25, at Altrincham.—Honey Show, in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. Classes for Trophy of Honey, for Best Hive, Observatory Hive with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester: Amateur-Built Hive, two Shallow Bars, Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low Entrance Fees. Schedules from Mr. J. Herbert Hall, 2, Dunham Road, Altrincham. **Entries closed.**

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee Produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for Honey, &c. Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover Square, London, W. **Entries closed.**

October 17 to 26, at Waverley Market, Edinburgh.—Honey show in connection with the Eleventh Annual Edinburgh and Midlothian Industrial Exhibition. All open classes. Beautifully illustrated prospectus, price 2d., from A. Hutchinson, 15, Leith Street, Edinburgh. **Entries close October 3.**

THE BEE.

Not a flower can be found in the fields,
Or a spot that we till for our pleasure,
From the largest to least, but it yields
The bee, never wearied, a treasure.

Scarce any she quits unexplored,
With a diligence truly exact;
Yet, steal what she may for her hoard,
Leaves evidence none of the fact.

Her lucrative task she pursues,
And pilfers with so much address
That none of their odour they lose,
Nor charm by their beauty the less.

Not thus inoffensively preys
The cankerworm, indwelling foe!
His voracity not thus allays
The sparrow, the finch, and the crow.

The worm, more expensively fed,
The pride of the garden devours;
The birds pick the seed from the bed,
Still less to be spared than the flowers.

But she, with such delicate skill,
Her pillage so fits for our use,
That the chemist in vain with his still
Would labour the like to produce.

Then grudge not her temperate meals,
Nor a benefit blame as a theft,
Since, stole she not all that she steals,
Neither honey nor wax would be left.

COWPER.

PRESS CUTTING.

FOREIGN PARCEL POST RATES.

Mr. W. J. Farmer, Redruth, thinks there is "something very wrong" with the ocean parcel post arrangements of the Post Office. He has been charged 5s. for sending 3 lb. of honey to a friend in the United States, who will have, in addition, to pay Customs duty on delivery. He adds:—

"The regulations appear to have been expressly framed to render it as difficult as possible to exchange friendly gifts with the citizens of other nations."—*Daily News.*

Echoes from the Hives.

Stanford, Hythe, Kent, September 6.—The season here, in common with most places, has been an entire failure. I have only a little over twelve sections from four hives (last year I had 100), no swarms, and the bees have only been kept going by feeding during all the season except a short time in July and August.—(Miss) M. GRIEVE.

Notices to Correspondents.

FRANK W. BREACH (Chihuahua, Mexico).—*Specimen of Honey, &c.*—The bottle of honey arrived quite safely. The honey is excellent in quality, good in flavour, of a nice amber colour, and of a very thick consistency. In fact, it is the thickest honey we have seen for some time. We are sorry that the bees were quite mouldy when they reached us, and also most of them broken, so it is impossible with certainty to say what they are. They are, however, very small for honey-bees, and have a slight yellow marking on first abdominal ring.

J. SILVER (Croydon).—*Aid for Isle of Wight Bee-keepers.*—While crediting you with the best of motives, we are unable to fall in with the proposed arrangement, nor can we go beyond our undertaking to give the matter full publicity in the B.B.J. if a fund—placed on a proper basis—is initiated, and controlled by what we consider to be the proper authorities, *i.e.*, the County B.K.A. affiliated to the B.B.K.A. This done, we will be very pleased to start a list with a contribution, as already promised. Meantime, we have drawn the attention of the Hon. Sec. of the Hants. and I.O.W. B.K.A. to the matter, and hope to have his reply shortly.

J. B. C. (Loughboro').—*Soft Bee-candy.*—The candy you refer to as "Good's candy" is made by mixing honey with castor sugar to the consistency of stiff paste (see page 111 of "Guide Book," new edition).

G. H. H. (Bath).—*Genuineness of Beeswax.*—We do not think it needs analysis to judge that the sample of wax sent is altogether too soft to be genuine. In our opinion it would not bear the heat generated by bees when comb-building, and thus a breakdown would result when using full sheets of foundation.

AMATEUR (Plumstead).—*Removing Surplus Honey from Skep.*—By investing 7d. in a copy of "Modern Bee-keeping, a Handbook for Cottagers," and following its directions, no difficulty should be experienced in removing the box set above the skep, if it is filled with honey as stated. You should, however, be quite certain that the skep below is supplied with about 20 lb. of honey for the winter food of the bees. It is not safe to remove surplus in so bad a honey season as the present year has been unless the bees are fed liberally to compensate them for emptying their store-house.

E. MOORE (Bogthorn).—*Candied Golden Syrup as Bee-food.*—We do not advise use of above as bee-food. Syrup made from pure cane sugar is the best substitute for honey that can be used for feeding bees.

CÆSAREAN (Jersey).—*Re-queening Stocks.*—1. The present month is as suitable a time as any for re-queening hives. 2. Soft candy, whether Good's or any other make, is not nearly so suitable for winter bee-food as well-made sugar-syrup.

J. P. (Derby).—*Derbyshire B.K.A. Challenge Cup.*—The matter you mention is one entirely for the Association to decide, and it should only be needful to bring it before the council in order to have it put right.

C. WALSH (Hale, Liverpool).—*Bee Nomenclature.*—Bees sent are Carniolans slightly crossed with Ligurians.

B. (Lewes).—Your queries will be fully answered next week.

Honey Samples.

H. SAMWAYS (Carmarthen).—Your sample would do very well for staging in a class for heather-blend honey, but will not be eligible in a class for "medium-coloured" honey, as the heather flavour would disqualify it. The "Grocers'" show on September 21 has a class for "heather-blend" honey.

T. TOMLINSON (Streatham).—Sample is good in colour, but of very thin consistency. The flavour is fair, and has been gathered chiefly from the lime blossom.

F. C. (Hemel Hempstead).—Sample is about third-grade for quality, being spoilt by an admixture of what we take to be crimson clover (*Trifolium incarnatum*). Honey from that source is coarse in flavour.

H. G. K. (Frome).—Sample is granulated, but not stiffly so. The "peculiar" flavour you name comes from heather, the honey sent having been chiefly gathered from that plant.

Suspected Combs.

T. (Stamford).—There is foul brood in comb sent, but not in pronounced form.

D. J. (Carmarthen).—Your sample of comb shows a bad case of foul brood.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

HONEY SCABIOUS (Perpetual), 1s. 9d. doz., 10s. 100; Bees on Brood Comb.—KEATLEY, Fouroaks. c 8

OVERSTOCKED.—Full 1-lb. tall tie-over Honey Jars, exact size ("Triangle" brand), 10d. per dozen, packed, on rail.—W. WOODLEY, Beedon, Newbury.

DRIVEN BEES, guaranteed healthy, 1s. 2d. lb.; cages free.—ELKINS, Willow Grove, Salisbury. c 15

ON SALE, five strong Stocks of Bees, in Standard Frame Hives, guaranteed healthy; also Cowan's Rapid Reversible Extractor, geared. Owner going abroad.—EDWIN HAMPSON, 202, Manchester-road, West Houghton, Lancashire. c 24

SITUATION WANTED, by Handy Man, assist Gardener, understand Bees.—GARDENER, The Stables, Oakhurst, Midhurst. c 25

5 CWT. LIGHT CLOVER HONEY, in bulk, £3 3s. per cwt., cans free; samples, 1d. — KENT, North-square, Dorchester. c 22

BARGAIN.—TWO SKEPS OF STRONG, HEALTHY BEES FOR SALE, 2s. 6d. each, cheap.—LITMAN, Castle Cary. c 10

DRIVEN BEES FOR SALE, 3s. 6d. per lot, guaranteed healthy.—WOODING, Sutton, Sandy, Beds. c 11

DRIVEN BEES, warranted healthy, 3s. 6d. lot, package returnable. — CADMAN, Codsall Wood, Wolverhampton. c 12

FOR SALE, two Bar-frame Hives and Bees, Standard size, in first-class condition, for winter.—Apply, A. MACONACHIE, 82, Harlaw-road, Inverurie, Aberdeenshire. c 13

WANTED, Situation, by married man, to manage Apiary and Poultry Farm; wife good laundress; good character, experienced.—H. GOBLE, Ivy Cottage, Durrington, near Worthing. c 14

NEW UNUSED INNER BODIES, with Standard Frames and Ends, 2s.; "Wells" Hives, 12s.; "Rymer" Boards, 9d.—W. FARMER, Redruth. c 27

DRIVEN BEES, from Bar-Frame Hives, 1906 Queens, 5s. lot, cash with order; money returned if not satisfied; good workers; crate returnable.—G. A. GILLETT, Moreton-in-Marsh. c 28

GARDENER (HEAD) WANTS SITUATION, life experience all branches, age 37, well up in fruit and vegetables and the management of a small estate, expert B.B.K.A.—T. BEERS, Barton Hall, Foston, Derby. c 26

Special Prepaid Advertisements.—*Continued.*

FINEST ENGLISH HONEY, 15s. per 28 lb. tin; sample, 2d.—DUTTON, Terling, Essex. b 52

6 "COWAN" HIVES, with Stocks of English Bees, £9.—For further particulars write, W. EVANS, 11, Canfield-gardens, Hampstead. c 17

FIFTEENTH SEASON.—September. Healthy Driven Bees, the most valuable because principally composed of young ones, with young fertile Queens, 4s. 6d. per lot, or 4 lb. for 5s., package free; Queens only, in self-introducing cages, 2s. 6d., per post.—SOLE, Expert, Poplar Grove, New Malden, Surrey. c 16

SURPLUS HIVES FOR SALE, used one and two seasons only, have never contained diseased Bees, cheap.—Particulars on application, SIMS, Stratford-road, Hall Green, Birmingham. c 18

WILL EXCHANGE Ten Tumblers and Two Homers for 6 lb. of Driven Bees, must be healthy.—Apply, HAY, Killingworth Station, Northumberland. c 19

QUEENS, 1906, 1s. 3d.; 1907, 2s. 6d.; free, from Driven Bees.—BRAYSHAW, Aultmore, Keith. c 20

FINEST QUALITY LIGHT-COLOURED EXTRACTED ENGLISH HONEY (1906 and 1907 crops), in 28-lb. tins, 8d. lb., f.o.r.; 5 cwt. and upwards, 70s. cwt., f.o.r.—C. DUNN GARDNER, Fordham Abbey, near Soham, Cambs c 21

FOR SALE, Entire Apiary of about sixty Stocks, in good Frame-Hives and Skeps. Reasonable prices.—Write, J. W. AVERY, Deverill, Warminster. c 9

PURE ENGLISH HONEY, Second Grade, Flavour good. Price 45s. cwt.; sample, 3d.—ALBERT COE, Apiary, Ridgewell, Halstead, Essex. c 23

DRIVEN BEES, 1s. lb., or 3s. 6d. lot, or exchange for Sections, Standard, Shallow Frames, and Foundation, in Flat.—BARNES, Burwell, Cambs. c 5

FINE PURE BLACK MINORCA COCK, COCKERELS, and 1906 PULLETS. Sell, or exchange for Driven Bees or Honey.—RICHARDS, Thurlby, Wallington, Surrey. c 7

SPLENDID LARGE RIPE PLUMS, at 2s. per 14 lb., packages free, and carriage paid; satisfaction guaranteed.—R. BROWN, Flora Apiary, Somersham, Hunts. b 94

DRIVEN BEES, 4 lb. 5s., 5 lb. 6s.; healthiness and safe delivery guaranteed.—CHARLES H. BOCOCK, Ashley Apiaries, Newmarket. b 96

"ALNWICK" FEEDER, made of wood, zinc, and glass, for Starving Stocks and Driven Bees. Price 6d. each; postage of one costs 3d., two 4d., six 6d., dozen 10d.—J. BALMBRA, East Parade, Alnwick. b 97

BEE HOUSE, for twelve Colonies, with Extracting Room, £6; Bee House, for fifteen Colonies, £6; both detachable; Colonies on Frames, 10s. to 16s.; empty Hives, cheap; Rapid Feeders, 1s.; 14-lb. Honey Tins, 3d.; Sections, in Flat, 1s. 100; Section Crates, complete, 3s.; empty Crates, Brood or Shallow Frames, 1s.; Shallow Frames, half waxed, 3d., fully drawn out, 6d.; Extractor, 14s.; geared, 17s.; Ripener, 10s.; Section Cases, glazed one side, 9d. dozen; other things equally cheap. Inspection invited.—W. STANDRING, 56, Central-drive, Blackpool. c 2

I CAN CONFIDENTLY RECOMMEND young man, single, who requires situation, good experience outdoor, fruit, vegetables, bees, and capable of taking charge of Apiary.—EDWARD ROBB, Outwell, Wisbech. c 4

PLUMS.—The very best selected Pershore Egg Plums, 12 lb. 2s., 24 lb. 3s. 9d.; Victorias, 12 lb. 2s. 6d., 24 lb. 4s. 6d.; carriage paid: in strong box.—WOODWARD, Fruit Grower, Fladbury, Worcestershire. b 76

Special Prepaid Advertisements.—*Continued.*

MESSRS. STONE AND SONS, Chemists, Exeter, are buyers of English Beeswax, in large or small quantities.—Write, stating quantity and price required. b 85

FOR SALE, Strong, Well-made Rustless Honey Extractor, 12s.; Ripener, 10s.; both nearly new.—SHACKLETON, Thorner, Leeds. b 92

HEALTHY DRIVEN BEES, with fertile Queen, 5s. per lot; strong 3-Frame Nucleus, 1907 Queen, 3s. 6d. Exchange Honey in Bulk. Strong Healthy Stocks, in Straw Skeps, heavy with Heather Stores, 12s. 6d., 13s. 6d.; Fertile Queens, 2s. 6d., guaranteed.—W. WOODS, Normandy, Guildford. b 69

QUEENS, CHOICE 1907, bred from my Non-Swarming Stocks, 3s. 6d. each.—TAYLOR, Boldmere, Wylde Green, near Birmingham. b 66

40 YEARS' EXPERIENCE AMONG THE BEES. Healthy Driven lots, 3s. 6d., good lots.—DENNETT, Whitchurch, Hants. b 62

HEALTHY DRIVEN BEES, with good Queen, 5s., package returnable; extra Queens, 2s. 6d. each.—JOHN P. PHILLIPS, Spetchley, Worcester. b 46

CHAPMAN HONEY PLANTS.—Strong plants, to blossom 1908, 12 3s., 6 1s. 9d., package free; Seed, 6d. and 1s.—JOHN P. PHILLIPS, Spetchley, Worcester. b 47

SEVENTEENTH SEASON.—Healthy Driven Bees, with young Queen, in 4-lb. lots, at 1s. 3d. lb., boxes returnable, carriage paid, or charged 1s.; also young Fertile Queens, at 2s. each, with introducing cages, post free.—R. BROWN, Flora Apiary, Somersham, Hunts. b 45

NEW SECTIONS WANTED, first quality, cash.—SMITH AND CO., Cambridge-street, Hyde Park. b 43

FINE TESTED 1907 FERTILE ENGLISH QUEENS, of my hardy prolific strain, 3s. 6d. each, guaranteed healthy and safe arrival.—WHITING, Valley Apiaries, Hundon, Clare, Suffolk. b 44

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order.—EDWARD REYNOLDS, manufacturer, Andover, Hants.

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester.

WANTED, for Scientific purposes, DEAD QUEEN BEES, and WORKER HORNETS. Will brother Bee-keepers oblige?—HERROD, Apiary, Luton.

CLOVER HONEY, guaranteed pure, of finest quality, 1 lb. screw-cap jars, 77s. gross, 21s. ¼ gross; ½ lb. ditto, 45s. gross, 13s. ¼ gross; Honey in bulk, 48s. cwt.; samples, carriage paid, 8d. Further prices and particulars on application.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 74

HONEY JARS.—We have contracted largely for special well-finished machine-made screw-top jars, each washed and wrapped in paper, complete, with caps and cork wads, 15s. 6d. gross, 43s. 3 gross; ½ lb., 12s. 6d. gross, 37s. 3 gross.—TURNER BROS., Sandpit Poultry Farm, Croydon. z 75

BRICE'S 1907 HYBRID QUEENS, tested, 5s. 6d.; Virgins, 3s.; safe arrival guaranteed.—HENRY BRICE, Brigstock-road, Thornton Heath, a 13

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

Editorial, Notices, &c.

REVIEWS.

From the U.S. Department of Agriculture we have received the "Report of the Meeting of Inspectors of Apiaries," held at San Antonio, Texas, on November 12, 1906. It is edited by Dr. E. F. Phillips, who also writes the preface. The object of this meeting was to get the inspectors together for consultation and closer co-operation of these men in their work of controlling bee-diseases. The report is not a verbatim one, but the editor says it represents the proceedings of the meeting. Five papers were read, which were followed by discussions. There is a summary of Dr. White's investigations on foul brood, which we have already reviewed, and Dr. Phillips took for his subject "The Present Status of the Investigation of Bee-diseases," in which he gives a *résumé* of Professor F. G. Harrison's paper entitled "Foul Brood of Bees," also copious extracts, occupying nine pages in the report, from Mr. Cheshire's and Dr. Cheyne's papers, published in 1885 in the "Journal of the Royal Microscopical Society." Then seven pages are occupied with extracts from Professor J. J. Mackenzie's paper, and further five more pages are from this work, and the author concludes with referring to Dr. White's investigations in order to show that all previous investigators have been wrong in supposing that *Bacillus alvei* was present in ordinary foul brood, and that it is always present in the disease that they have called in America black brood, but which they now term European foul brood. In an editorial remark Dr. Phillips says:—"Burri in 1904 published an account of his work, and found *Bacillus alvei* in a few specimens from Switzerland (indicating that European foul brood is found there), but found also another organism which grows with difficulty. The latter is undescribed and unnamed, and it is possible and probable that he worked with *Bacillus larvæ* (White)." Dr. Phillips has omitted to state that Dr. Burri published his further researches in January, 1906, and described and illustrated the bacteria he found in foul-brood specimens. *Bacillus alvei* was always found in the strong-smelling foul brood of the virulent type, whereas he found another bacillus difficult to cultivate in our mild or odourless foul brood. Dr. Buttel-Reepen gave this the name of *Bacillus Burri*. Through the courtesy of Dr. Burri both these bacilli are illustrated in the last edition of the "British Bee-keepers' Guide Book." The discussions following the papers are interesting, although there is little to be learnt from them. With regard to getting rid of black brood, Mr. E. W. Alexander recommends introducing new blood into the apiary. As this disease has recently made its appearance in this country and is spreading, we will give his treatment in more detail. In the paper by Mr. Lance we learn that in Wisconsin there are 10,535 farms, having 106,090 colonies of bees, which produce in one year 2,677,100 lb. of honey. There are more than twice as many pounds of honey produced each year in Wisconsin as there are heads of cattle or sheep. One year's honey-crop in Wisconsin would load thirteen freight cars, or if placed in 1-lb. sections touching each other would reach 181¼ miles. There is a full-page illustration of a "Portion of Comb Infected with American Foul Brood." It is printed in salmon colour, and is quite different from the usual colour of combs affected with foul brood.

We have also received a four-page circular on "The Cause of American Foul Brood," by Dr. G. F. White, expert in bacteriology. In this he refers to his investigations on foul brood, and states that since the publication of his previous paper he has succeeded in producing foul brood with a pure culture of the bacillus which he has named *Bacillus larvæ*. This he says is always present in American foul brood. He does not agree with Drs. Burri and Maasen, and thinks they have been working with *Bacillus larvæ*, and that Dr. Maasen's *Bacillus brandenburgiensis* is none other than this, and that Dr. Buttel-Reepen has referred to it as *B. Burri*. Dr. White has succeeded in cultivating his bacillus in a medium which consists of the sterile filtrate obtained by diluting and filtering the crushed bodies of bee-larvæ through a Berkefeld or other fine filter, and the fact that he has succeeded in reproducing the disease from a pure culture is a step gained in elucidating the mystery connected with these diseases. Whether Dr. White's bacillus is the same as those of Drs. Burri and Maasen remains to be seen, and, if it is, the reason why it appears in the strong-smelling foul brood in America and only in the odourless form here will have to be explained.

Weather. By the Hon. H. A. Stanhope. (London: Agricultural and Horticultural Association. Price 1d.)—This is the twelfth "One & All" garden book, edited by E. O. Greening. It will be a useful book for bee-keepers, for although the subject of the weather is frequently alluded to by them, and so much of the success of bee-keeping depends upon it, how few bee-keepers appear to have any idea how weather changes are brought about. This pamphlet is to be welcomed, for the author, who has made a special study of meteorology, in the twenty pages manages to deal with the subjects of temperature, wind, rain, hail, frost, and snow, as also with clouds, thunderstorms,

atmospheric pressure, lightning, and rainbows. The mode of determining weather forecasts is explained, and the numerous illustrations will prove of service. The pamphlet is written in a readable style, and the author has succeeded in condensing into its pages a great deal of useful matter worth remembering. How few can tell where our rain comes from, or why the barometer is often misleading when simply looked upon as a weather-glass, not knowing how many factors have to be taken into consideration. We recommend every bee-keeper to get one of these pamphlets.

DEATH OF MR. GEORGE ALLEN.

We regret to announce that Mr. George Allen, so well known as Ruskin's publisher, died at his residence, Orpington House, Kent, on September 5th, in his seventy-sixth year. Mr. Allen's career was a remarkable one. As a young carpenter he attended the Working Men's College, Great Ormond Street, where he first met Mr. Ruskin, in 1854, in the art class room. Here at first he received the same attention as other students, but Mr. Ruskin soon saw the capabilities of the young carpenter, and was greatly pleased with a copy of the Mildmay sea-piece, which by way of encouragement was bought by John Ruskin's father. Later he became Mr. Ruskin's assistant drawing master, and finally as his own assistant. A friendship sprang up between master and pupil, and the latter was encouraged to study mezzotint engraving on steel, and also line-engraving under Thomas Lupton, and later he received an offer to become Ruskin's assistant in the engraving of his pictures. Allen entered into the work heart and soul with such thoroughness and ability that to the death of Ruskin the most abiding friendship existed between the two. In 1871 Mr. Allen settled in the village of Keston, in Kent, as Ruskin's publisher, and some time afterwards the business was transferred to Orpington, where he resided. A London branch was opened at "Ruskin House" in the Charing Cross Road. No printing was done at Keston or Orpington, only the engraving and publishing. After selecting the type and paper Ruskin left it to Mr. Allen to see that it was well carried out. He was very particular, and would only have first-class work; indeed, on one occasion he decided to destroy 5,000 prints which did not quite come up to his ideal. Mr. Allen dissuaded him from doing so, and the Ruskin-Allen edition of "Modern Painters" was published.

Living in the country, Mr. G. Allen took a great interest in bees, and was connected with the old Kent Bee-keepers' Association as a member and for some years as its treasurer. He was a frequent attendant at the quarterly meetings of the B.B.K.A. When Mr. Ruskin went to live at Coniston the intimate relations between the two were kept up, and in return for a super of honey and some wild flowers Ruskin sent him some of his sketches and manuscripts. Mr. Allen extended his business and started publishing for other authors, amongst whom bee-keepers will recognise Maurice Maeterlinck, whose "Life of the Bee" is so well known, and in which work Mr. Allen as a bee-keeper took a personal interest. The sympathies of a vast circle will be extended to the family in their sad loss.

Since the above was written we add a kindly and characteristic reference to Mr. Allen's connection with our craft from the pen of Mr. Geo. A. B. Dewar, the writer of "Country Notes" in the London *Standard*, who was present at the funeral:

"There have been many good accounts of the life work and character of George Allen, who was laid to rest at Orpington churchyard last week, in a scene, and with a service, grave and beautiful. But there was one side of him which, perhaps, has been a little lost sight of through the wealth of Ruskin memories which his name calls up. I mean that side which was so intimate with things of the open air. Some men have what we can only call 'an eye for a country.' . . .

"Mr. Allen surely had this eye for a country, and this aptitude for 'rural economy.' Somebody said that it was as if there were a sympathy between him and things of the earth and air, and that was nicely put. It was a most pleasant thing to hear him talk of such a thing as pruning, and pleasant, too, to be with him in his Kent bee-garden. I saw the hives at Orpington on Monday, and it flashed on me that they had lost their master! Mr. Allen was perfectly at home with bees, and he was a mine of knowledge about their fiery, zealous lives, their curious qualities and habits. He was sting-proof, so that if a bee now and then did prick his skin it gave him no discomfort.

"But I remember that once, whilst he was showing me a very strong stock—which he had lately formed by joining two stocks—the bees took offence, and a number of them were (or seemed) round about my arms and hands, uttering that wicked cry they have when they lose their temper. They came boiling up over the combs, and certainly I put aside the 'smoker' in a hurry, and thrust my hands into my pockets. But Mr. Allen said, 'Smoke them a little more: smoke, please,' and out my hands had to come. Thanks to cowardice, or to kind fortune, I escaped punishment, but several bees,

enraged past bearing, followed me down the whole length of the garden path. I think Mr. Allen must have noticed my slowness to expose my hands and arms whilst the quilts were up and the bees excited and boiling over; but, if so, he was too kind to show himself conscious of it."

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of August, 1907, was £3,153.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

THE CONFECTIONERS AND ALLIED TRADES' EXHIBITION.

(*Concluded from page* 362.)

Of the miscellaneous honey classes, and beginning with that for twelve 1-lb. sections, it was more than satisfactory to find a capital display, the quality of which may be gauged by the fact of the five prizes being well earned and five v.h.c.'s and two h.c.'s being given, making twelve awards for the seventeen entries.

Only two entries were staged for twelve heather sections, and secured first and second prizes respectively for moderate samples. Messrs. Jas. Lee and Son staged three excellent shallow-frames of very thick comb for extracting, the total weight of which could not be less than 15 lb. or 16 lb. Mr. J. Herrod's second-prize lot were also thick, well-finished combs.

The class for light-coloured extracted honey, with twenty-seven entries, made up a fine show of first-class honey, with no signs of a poor season apparent. It was pleasant to be able to award such good prizes for the best five exhibits; while the six v.h.c.'s and three h.c.'s were not very much inferior to the best.

The medium class was very little behind for quality, as shown by the twenty-six entries taking five prizes and nine minor awards. Of the remaining seven classes, the best was that for granulated honey, with seventeen entries; but the two classes for beeswax ran it very close. On the whole, then, we can safely compare the Confectioners' with any other show of the present season for good quality in the samples staged.

SOMERSETSHIRE B.K.A.

ANNUAL SHOW.

The Somersetshire B.K.A. held its annual show at Radstock in conjunction with the local Horticultural Show on August 21. The number of entries was not so great as last year owing to the adverse season but the quality of the exhibits was excellent. Much interest was shown in the honey-tent, and during the afternoon large audiences listened to Mr. J. W. Brewer, who lectured for the County Council.

Messrs. H. F. Jolly and S. Jordan officiated as judges. Much credit is due to Mr. H. J. Moore, who carried out all the arrangements in the enforced absence of the hon. secretary.

LIST OF PRIZES.

Collection of Honey.—2nd, G. W. Kirby, Knowle. (No 1st awarded.)

Twelve 1-lb. Jars Extracted Honey.—1st, Fred Philips, Thorverton, Devon; 2nd, T. Norridge, Abbott's Ann, Andover; 3rd, C. W. Dyer, Compton, near Newbury.

Twelve 1-lb. Sections.—1st, C. W. Dyer; 3rd; C. Jones, Wells Road, Knowle; c., G. W. Kirby.

Single 1-lb. Jar Extracted Honey.—1st, W. Patchett, Cabourne, near Caistor; 2nd, R. W. Lloyd, Thetford, Norfolk; 3rd, H. A. Saunders, Thetford, Norfolk; v.h.c., F. G. Hillier, Tarrant, Andover; h.c., T. Norridge.

Single 1-lb. Section.—1st, W. Patchett; 2nd, T. Norridge; 3rd, M. Butcher, Abbott's Ann, Andover; v.h.c., R. W. Lloyd.

Beeswax.—1st, C. Jones; 2nd, G. W. Kirby.

Collection of Hives and Appliances.—1st, Brown and Sons, Bristol.

Observatory-hive with Queen and Bees.—2nd, G. W. Kirby.

Three Shallow-frames of Honey for Extracting.—1st, Graham H. Hicks, Batheaston; 3rd, C. Jones.

Three 1-lb. Jars Granulated Honey.—2nd, Miss Sheppard, Chewton Mendip; 3rd, G. W. Kirby.

Six 1-lb. Sections.—2nd, C. Jones; 3rd, C. Wood, Lower Weston, Bath.

Six 1-lb. Jars Extracted Honey.—1st, G. W. Kirby; 2nd, C. Jones; 3rd, S. Gibbs, Bleadney, Wells.

Three 1-lb. Sections (Novices only).—2nd, C. Wood; 3rd, B. Edgell, Radstock.

Three 1-lb. Jars Extracted Honey (Novices only).—1st, Miss R. A. Sheppard; 3rd, F. G. Hales, P.O., Wellow, Bath.—LOUIS E. SNELGROVE, Hon. Sec.

HONEY-SHOW AT BRAMHALL.

BRAMHALL AND DISTRICT HORTICULTURAL SOCIETY.

The annual show of the above society was held on Saturday, September 7, in the charming grounds of Bramhall Hall by permission of C. H. Nevill, Esq., J.P.), and attracted a large number of visitors from the surrounding districts.

Mr. T. Johnson, first-class expert

B.B.K.A., gave a practical demonstration in bee-keeping under the auspices of the Cheshire County Council and the Cheshire B.K.A.

The display of honey and wax in the open classes was of a very high standard, and the competition very keen. The local exhibits, on the other hand (with one exception), were poor in comparison, owing to the bad season.

Mr. W. Bradburn, Bramhall, officiated as judge and made the following awards:—

OPEN CLASSES.

Twelve 1-*lb. Sections.*—1st, Wm. Patchett, Cabourne, Lincs.

Twelve 1-*lb. Jars Extracted Honey.*—1st, A. S. Dell, Leigh and Bedford; 2nd, J. Stone, Little Cubley, Derby; 3rd, John Berry, Llanrwst.

Beeswax (1 lb.).—1st, Geo. Lambert, Barnton, Northwich; 2nd, Job Astbury, Kelsall, Chester.

LOCAL CLASSES.

Six 1-*lb. Jars Extracted Honey.*—1st, John Turner, Bramhall (C.B.K.A. silver medal); 2nd, Herringshaw, Cheadle, Hulme; 3rd, John Sibson, Bramhall.

Six 1-*lb. Sections.*—1st, Winterbottom, Cheadle, Hulme.

One Shallow-frame for Extracting.—1st, Herringshaw.

Beeswax (½ *lb.*).—1st, John Turner.—JOHN SIBSON, Hon. Sec.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications. and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

AMONG THE BEES.

[6833.] *Strawberry Honey.*—A good few years ago I remember being taken to task by the late Mr. David Raitt for stating that bees worked on strawberry bloom. Although my statement rather read that they were gathering pollen from the blossom, I ventured to contend against his much larger experience and observation over acres of strawberry plants that bees *did* gather honey from this source. Later study enabled me to confirm my first belief, and I explained the discrepancy between the two experiences by the fact that about Blairgowrie, where vast stretches of raspberries and strawberries are grown, the fields are very heavily manured. Plants grown under this forcing process fail to secrete much nectar, consequently bees would seldom visit them because of being better provided elsewhere. This year two gentlemen with ample means of knowing gave me the result of their observation, one maintaining that strawberry blossom is rarely visited by the bees, while the other as positively declared that for about a week there was a regular boom, as if the bees were working on some prolific honey-yielding plants. In the same way, willows yield poorly many years, either because the weather at that early date hinders bees working on them, or because climatic conditions are unfavourable to a honey-flow. Yet cases have been known where they have yielded most bountifully, and surplus was secured at a rate fairly astonishing veterans who had known the locality for many years without having previously had such an experience.

Bees Carrying Eggs.—I had a proof this year that they do so. A driven lot was supplied with a frame of brood to test queenlessness. They started to build three queen-cells on the comb, and also one on the neighbouring frame of foundation, and in this last an egg was carried from one of the cells. I re-queened the driven bees, so I am unable to say what would have resulted from the transfer.

Introducing Queens.—Owing to the inclement season very little queen-rearing was attempted in my apiary, and results were, of course, poor. Three queens lately introduced were given by the direct method: flouring bees between two frames and allowing queen to walk down after receiving a gentle dusting, and smearing the queen with honey from the hive which she was to head. All the methods proved quite successful. I notice that it has been repeatedly advised in your pages of late that a cage containing an alien queen should be coated with honey from the hive to be re-queened, and I think the practice lends itself to a successful introduction. An excellent practice, worthy of being more extensively followed, is that of placing the caged queen on receipt right above the frames. Then in twenty-four or forty-eight hours hunt for the old queen, depose her, and leave the cage in such a condition that the bees will eat out the candy or otherwise liberate the new queen in an hour or two. In this way there will be no interregnum and no cessation of egg-laying between the supersedure of the queen and the acceptance of her successor.

Comb-building.—It may be taken as a truism that bees after swarming will go on for about ten days building only worker-comb, even from starters, if a good flow is on, and they are confined to just the number of frames they are capable of

working out. Then other frames added should contain full sheets of foundation. This year, owing to the poor flow and the time bees were kept prisoners, far too large a percentage of drone-comb has been added. This was caused by the vexatious delay consequent on the inclemency of the weather, the poor flow, the anxiety of the bees to complete their works, and the natural instinct to save labour. All frames built out under these circumstances should be carefully examined to determine if they contain too much drone-comb, and, if so, they should be withdrawn from the hives at the spring examination, and their space filled with frames containing full sheets. An established stock supplied with starters, or these frames with the drone-cell part cut off, is pretty certain to re-build all useless drone-comb, unless the stock is a weak one, covering only two or three frames. Nothing tends more to generate the swarming impulse than such combs as have been built out so lavishly with drone-cells all over every part of the brood-body. Many wonder why they have so much swarming, when, if they only knew, this is a prime factor in causing the fever. A neighbour this year had twelve times as many swarms from one-fourth my number of stocks—caused largely, I am confident, by an overplus of drones.

Feed! Feed!—So much has been written on the disastrous season just closed that I refrain from piling on the agony. Vain regrets for the past are idle and superfluous. It is of the season 1908 that we have now to think. Three things are urgently necessary if success is to be ours in the future. First, we must feed wherever necessary, to ensure that a full supply of stores is in every hive. The cause is urgent and should be attended to before September is out. Secondly, if you find too few bees in the colony, unite two without the least compunction. One strong stock capable of standing out the winter is better than three or four weaklings which, if they survive at all, will do so in a very attenuated condition. Thirdly, make certain each stock has a laying queen. This is a most necessary condition every autumn, but this year, owing to the miserably cold, wet, cloudy weather, yielding so few good mating days, it will be found that very many swarmed stocks, second swarms, and colonies where bees will have superseded their old or failing queens will be headed by a useless virgin incapable of laying worker-eggs because she has not been fertilised. Many stocks have already dwindled sadly from this cause, and the paucity of bees will make them a certain prey to the first cold blasts of winter.

As a specimen of weather it may be noted that the thermometer registered 92 deg. on September 3, 1906, and only 49 deg. on September 3, 1907. Since the 7th, however, the weather has been grand, bees filling up body-boxes rapidly from strong heather-bloom; so there may be little feeding necessary in our and similar districts.—D. M. M., Banff.

TEMPERATURE AND HONEY-YIELDS.

[6831.] I consider a high temperature of the atmosphere to be the most important and necessary factor in honey-production. Experience has shown me clearly that when we have the temperature standing about 70 deg. Fahrenheit throughout the night then is the time that nectar is secreted abundantly and rapidly by the flowers. I have known cloudy, windy days after such nights, and yet the bees would pour out of and into the hives incessantly, busily gathering the honey which the high temperature had caused the flowers to secrete in great profusion. But with continuous days of cloudless sunshine and still, warm nights, with a regular temperature of 70 deg. to 75 deg., then we have ideal bee-weather. At such a time, with a good bloom of nectar-producing flowers all around us, I have seen single colonies pack from 50 lb. to 70 lb. of honey in the hive in one short week. It has often been a source of wonder to me why it was that, with a large area of heather (*Calluna vulgaris*) in our vicinity, flowering well out into September, our bees collected such an insignificant quantity of "ling" honey. I have now come to the conclusion that it is because we have not (generally after, say, August 20) a sufficiently high temperature to enable the flowers to secrete sufficient nectar to make it worth the while of our bees to visit them. I attribute this low temperature, in part, to our geographical position. The Isle of Man is a little spot of earth (ten miles by thirty miles in area) set in the centre of the Irish Sea. The cool, equable breezes from the surrounding ocean tend to lower our temperature in the summer, and, of course, in the winter keep the temperature from going down so far as it does in the adjacent, but larger, island of Great Britain. In the shortening days and lengthening nights of September the radiation of heat from our island into the surrounding cool sea atmosphere is such as to cause a serious fall in temperature when *Calluna vulgaris* is at its best. Hence we have no ling honey. Certainly we have, however, a very superb honey-yield from *Erica cinerea*, which is at its best in July and early August, and I am not at all inclined to yield easy honours to the much-vaunted product of the Scotch moors when compared with the fragrant and delicious

secretion of *Erica cinerea* as obtained in the Isle of Man.

It is a very rare thing for bees in our locality to gather any surplus after the second week in August. I have seen the bees on a day just about mid-August working as busily as possible. Then during the night a slight fall of temperature would take place, and next day, though bright and sunny, the bees were quiet, and I knew by experience and intuition that the season was over, and that I might just as well remove supers at once and prepare the hives for wintering. The year 1906 was an exceptional year. The temperature during the last week of August was perhaps as high as it had been during the summer, and while that spell of hot weather lasted I believe my bees gathered more honey from the Calluna than they did in the preceding ten years all put together. The present year has been remarkable for low temperature as well as lack of sunshine, consequently, although flowers were fairly abundant, the quantity of honey secreted by them must have been comparatively trifling. — LANCELOT QUAYLE, Glenmay, I.O.M., September 14.

ROSS-SHIRE NOTES.

SCOTLAND YET!

[6835.] While general reports are almost tearfully unanimous as to microscopic honey-crops and unpleasantly large sugar bills, in our northern land bees are making a final bid for fortune under excellent weather conditions. August was positively honey-less, and when the present month had its genesis among frost and snow all seemed lost. But last week, when hope had almost fled, there shone out the bright sun of promise.

The long-deferred sunshine was indeed welcome; it bathed the purple hills in kindly light, it aroused the inmates of the hive to make a supreme final effort "owre the muir amang the heather." For three days the air was full of flying bees and heavy with the fragrance of heather honey.

A few stocks are still strong enough to crowd the supers, but, with all possible precautions, I fear that very little of the precious nectar will be stored in sections. Although possibly fruitless so far as surplus is concerned, this opportune honey-flow will prove the salvation of many colonies; in fact, up till now I have not seen even one possessed of sufficient stores to last over winter.

Autumn Expansion.—*Apropos* of the usual methods of preparing for winter, the following experience may be of interest. About this time last year I deprived a fairly good colony of all its stored combs, filled up with foundation, and fed rapidly. Later I replaced the previously removed frames on top in an extra brood-box, and closed down on sixteen frames. Nothing further was done until early June, when brood was found on thirteen frames, and eleven of these were massed in the upper story, the queen being confined below on empty combs and foundation. Except for occasional feeding they were let alone until the honey-flow came. On the fourth honey-day they showed every sign of having caught the swarming fever, clustering idly at the entrance while other hives were busy; but nothing could be done until evening, and "shook" swarming or anything of that sort with the shades of night falling fast was out of the question.

The two brood-boxes were covered with clustering bees, so, throwing a large sheet over all, I moved the lot *en masse* to a new stand, luckily not far away.

I placed a comb of bees and brood in the old hive, filling up with new frames, and by the following evening this was found crowded with returning bees from the removed portion. I introduced a young queen, and supered with two racks of sections; later a third was given on top. Result: a standard super of sealed honey sealing well over 40 lb., and three racks of sections beautifully worked out as only a prime swarm can do, although unfortunately only the half of them were sealed or saleable.

Those I thought my best stocks, supered at the start over ten frames packed with brood, gave little more than 30 lb. surplus. Why? The above colony was not a bit stronger than some others, but had only six frames occupied by brood when the honey-flow began. This made all the difference.—J. M. ELLIS, Ussie Valley, September 16.

BEES IN CUMBERLAND.

AN EXPERT'S REPORT.

[6836.] After a season that has been one of the most disappointing to both bee-keepers and farmers in this part of the country, on Friday, September 6, came a change for the better in this district, and with heather in full bloom bees are now madly busy storing (mostly in brood-chambers) a remarkable quantity of beautiful heather-honey. If the weather will continue so for another week it will gladden the hearts of bee-keepers here in the north, who were mostly getting prepared to feed up the bees heavily with artificial stores.

It is surprising what a lot of disappointment lovers of the little bee are prepared to go through, and also what an amount of hopefulness is always found in good bee-men.—J. PRICE, Expert (on tour).

BEES REMOVING SURPLUS.

UNSEALED HONEY CARRIED BELOW.

[6837.] I see by reports in the B.B.J. that honey is scarce this year, but for the sake of others I hope that my experience is unique. During July I found it necessary to put a second rack of sections on to a strong hive, and last month found the comb was well drawn out and nearly full. On a back row of the sections, which I kept under close observation, the cells were full, and I expected to see them capped over soon. A week or two later the same sections appeared to be *less* full than previously, and yesterday, on lifting the rack off, I found that the uncapped cells had been cleaned right out! There are only fifteen out of twenty-one full. Can you kindly suggest a reason for the clearance? This particular row had a piece of glass along it for observation, but it was always wedged up tight and covered with several thicknesses of warm covering.

From this hive I took 600 drones one day in July to prevent swarming.—T. KNIGHT, Carshalton, Surrey, September 16.

[It is quite a common occurrence for bees to carry down honey from supers into the brood-chambers below as soon as cold nights are frequent in autumn. The scarcity of income in all but heather districts at the present time is the cause of your bees transferring the unsealed stores below.—EDS]

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Bees' Eggs by Post (p. 315).—I, too, have been much struck by hybrid bees, and not only struck but buffeted, and more than tempted to strike back! If, however, it was unwise to strike the workers, it was wisdom to strike work over the blows, which was accordingly done until the striking affair had blown over.

Driven Bees and Foul Brood (p. 316).—Is it a fact that all experts are "thoroughly conversant with the appearance and symptoms of foul brood"? It is to be hoped so, but, if some correspondents are to be believed, a very cursory acquaintance will suffice for a pass! Far be it from me to belittle any holder of this honourable certificate, but none knows better than an association secretary that there are "experts and *experts*."

The Smell of Foul Brood (idem).—This writer must be the possessor of an *expert nose!* To be able to detect disease at garden distance, whilst in the immediate proximity of an offensive pig-sty, is indeed a nasal feat of which he may well be proud!

Skeppists and Foul Brood (idem).—It is interesting to note that the race of bees owes its present existence to the hygienic methods of the skeppists: but is it true? In this district, at least, the skeppists are sufficiently educated to "take up" the swarms with their new combs and their old queens.

A Late Swarm (p. 324).—It would seem to be clear that the manipulation of the stock, and perhaps the insertion of the escape-board, was the actuating cause. Either the separation from their stores, or more probably the limitation of room, accentuated the predisposition of the bees to swarm. There is, however, a possibility that, at this late date, the original intention was supersedure.

Rejuvenating Queens (p. 324).—The time here stated as two weeks, in which a queen produced a large population of her own bees, is of course a clerical error, and should probably read more than double that period. But the case is interesting as showing how essentially the rearing of brood depends upon the desire of the bees, and not of the queen. Here were queenless bees prepared to feed the queen to her utmost capacity, with the not altogether astonishing result that she justified their expectations. A brood-nest already garnished and swept obviated the need to hunt for unoccupied cradles. I believe that, in the season, a great deal of queen-time and numerous eggs are wasted whilst occupied cells are investigated.

Driving Condemned Bees (p. 324).—It is with something of a shock that I have understood from this explanation by Mr. Farmer that he keeps his bees in skeps. Much criticism of his plans might perhaps have been avoided had this been realised before. But even so, I fail to see how the annual loss of combs, and presumably brood, can help his skep-hive colonies to give a better yield in a "poor district." Surely there is some mistake, as modern methods tend rather to conserve the energies of the bees, and so to increase the crop. Certainly this method may check the disease which he so much dreads, but I cannot help the thought that if he were to employ a little of this annually misspent energy in the conversion of the neighbours who supply him with disease he would reap a perennial advantage.

Among the Heather (p. 342).—It is not quite clear how, if the heather is "quite guiltless of nectar secretion," "contraction now" can force the bees to store in the sections. Are they to rob their neighbours, or, simple souls, merely to transfer the stores from the sealed combs below?

Queries and Replies.

[3600.] *Colour of Honey—Earwigs in Hives—Wintering Bees in Skeps.*—Having received much help from your valuable journal, especially from the "Queries and Replies," I should be grateful for your help in the following:—On August 28 I took off a shallow-frame super, and obtained from it 20 lb. of extracted honey—it had been on a frame-hive since the beginning of June, but was not full. As seen in the jars and with the light on it, the honey looks decidedly greenish in colour, but with the light behind it appears amber-coloured. I therefore ask:—1. What is the cause of this? Is it because the honey is unripe? After extracting, it stood for several days, but only at a temperature of 75 deg. Fahr. 2. I have one frame-hive and a skep. In both I find earwigs are a great nuisance. Are they injurious to bees, and what can I do to get rid of them? 3. About wintering bees in a skep, will they be warm enough with a roofed box over the skep, or shall I put another covering of straw between? Name sent for reference.—B., Lewes.

Reply.—1. The probability is that there are lime trees within reach of your bees, and honey from that source always has a greenish tinge when in glass jars. 2. Earwigs are an undoubted nuisance when they harbour about hives, but except for creating more or less dirt they are not injurious to the bees. Directions for ridding hives of them, along with other bee-enemies, appear in the "Guide Book," pages 165 to 169. 3. The bees in skep will winter safely so far as regards protection from weather if covered with a sound box without packing between.

[3601.] *Utilising a "Hunger" Swarm.* — This afternoon at 1.20 p.m., one of the hottest days of this summer, I was surprised to notice a small swarm on the wing. The bees when first noticed appeared to be moving towards my apiary, and finally settled on some laurels above it, where my swarms generally cluster. But I do not think these bees belong to me at all, and there is no appearance of undue excitement round the hives, except "robbing." I have skepped the swarm, but at present do not know what to do with it. If strangers, they may be carrying infection with them, and it would be unwise to attempt to join them to a stock, yet if left as they are they must die. Is not this an unusual occurrence for the time of year? Is it of the nature of a "hunger" swarm?—(Rev.) Henry F. Gipps, Hundon Vicarage, Clare, Suffolk, September 9.

Reply.—Under the circumstances detailed above, and in view of the scarcity of food in many hives just now, we have no doubt that the little cluster of bees referred to is a "hunger" swarm. There seems no reason to suppose that the bees are from a diseased hive; we should therefore have no hesitation in uniting them to a healthy colony that would be benefited thereby in adding to their strength.

[3602.] *Autumn Feeding.*—I want to know whether there is any objection to feeding bees in the autumn with candy instead of giving syrup? The object in giving candy is because it is easier and quicker, but before doing so I should be glad to know your views on the matter.—G. E. Measures, Surrey, September 7.

Reply.—It is quite a mistake to suppose that autumn feeding is done "easier and quicker" by giving candy instead of syrup. As a matter of fact candy-feeding is a very slow process of giving food to bees, and is only advisable in autumn to stimulate brood-rearing after the summer season for honey-gathering is over, in order to secure autumn-bred bees for the early work of next year. Once this part of the work is seen to feeding up for winter should be done rapidly by giving syrup-food in a large feeder holding half a gallon of syrup.

[3603.] *Dealing with Partly-filled Sections.*—I find a number of sections in the racks now on my hives have just a little honey in the cells. I therefore write to ask, what I should do with them. 1. I propose to place them all in one rack and put it on top of the frames, hoping that the bees will clear out all the honey. Is this the correct thing to do? 2. The cleaned combs can then, I suppose, be used next summer in the hives. Is this so? 3. Will it not be bad for the bees if I retain the sections with the little honey in them and place them in the section-racks when giving surplus-room next spring? Reply will oblige—C. H. B., East Grinstead.

Reply.—1. Yes; and if the sections are left with only a covering of light calico the bees will clear the unsealed honey from them. 2. A few cleanly-combed sections in each rack are very useful as "baits" for inducing bees to take possession of them when giving surplus-room next year. 3. The unsealed honey will granulate if left in the sections all winter, and thus be spoilt for use the following season.

[3604.] *Queens Duplicating Eggs in Cells.*—I shall value your opinion upon the following incident:—About a month ago I introduced a virgin queen to a colony under my control, and for a few days afterwards I was wondering whether she would become fertilised owing to the cold, damp weather prevailing at the time. But a change came, and on the 5th of this month I examined the stock, and found a few eggs. This decided me to feed gently for a time in order to get as many young bees raised as possible. Anxious to know what progress was being made, I again examined the combs to-day. The first frame gave me a surprise, for instead of finding one egg per cell there were in some as many as six, and in almost all three or four eggs. On lifting another frame I soon found the queen on the comb, and about the same number of eggs per cell. A third frame when raised appeared about the same. The queen has ample cell-room, and is evidently making good use of it, for all the cells in the centre combs are practically full. In view of all this I am induced to ask:—1. Does it indicate unusual prolificness on the part of the queen?—she was bred from a very prolific queen in my apiary. 2. Does the superfluity of eggs imply a drone-breeding queen? I may say that of all the stocks hitherto examined by myself, not one has shown anything like such results as the stock in question, and I shall very much appreciate an explanation. Name, &c., sent for reference.—A. D. B., Bracknell, September 12.

Reply.—1. If you are perfectly sure that the queen had "ample cell-room," as stated, it shows abnormal prolificness and demoralisation with regard to ovipositing from some cause. By the time this appears in print you will know whether the queen has been mated or not by the appearance of drone-brood in worker-cells. 2. Not necessarily; it simply shows that something is wrong for the time.

[3605.] *Slightly Fermented Honey as Bee-food.*—I have about 14 lb. of 1906 honey, which has just begun to ferment; do you think it would be safe for my bees to be fed with the said honey if I boiled it up well along with an additional 20 lb. of loaf-sugar and medicated it? Your valued opinion would greatly oblige.—Thos. Wells, Colchester, September 14.

Reply.—If the honey referred to has a quart of hot water stirred into it, and after boiling for a

few minutes the scum is removed, then adding the 20 lb. of loaf-sugar after reducing the latter to thick syrup by mixing with 9 pints of water, you may safely give it to the bees as winter food after ten minutes' slow boiling.

Bee Shows to Come.

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the Fifteenth Annual Exhibition and Market of the Grocery and Kindred Trades. Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 25, at Altrincham.—Honey Show, in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. Classes for Trophy of Honey, for Best Hive, Observatory Hive with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester: Amateur-Built Hive, two Shallow Bars, Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low Entrance Fees. Schedules from Mr. J. Herbert Hall, 2, Dunham Road, Altrincham. **Entries closed.**

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee Produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for Honey, &c. Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover Square, London, W. **Entries closed.**

October 17 to 26, at Waverley Market, Edinburgh.—Honey show in connection with the Eleventh Annual Edinburgh and Midlothian Industrial Exhibition. All open classes. Beautifully illustrated prospectus, price 2d., from A. Hutchinson, 15, Leith Street, Edinburgh. **Entries close October 3.**

Echoes from the Hives.

Trieste, Austria, August 12.—During my absence in England in June I left my apiary of twenty-eight hives strong, and when I returned found fourteen new swarms, one of which I find is queenless. All the hives are now packed full of lovely honey. It would do your eyes good to see how the bees thrive out here, though at this season it is 107 deg. Fahr. in the shade. I opened the hives above the frames to let in a little air to cool the interior, much to the relief of the poor bees. This was my first visit since I returned home, and how happy I was amongst the hives! Needless to say, I had to give plenty of ventilation. I hope to get about £30 for the honey; that is not bad, as in spring there was scarcely enough honey to keep the bees alive. I don't think there was 10 lb. weight of honey in all the hives, but when the flowers began the bees seemed to work with great vigour. I fed them a little in spring, so that they would not die of hunger, and they well repaid me for the trouble. —H. Rathborne.

Notices to Correspondents.

*** Referring to the list of awards made at the Confectioners' Show, Mr. J. W. Mason writes to say his address is not "Cardiff," as it appears on page 361 (six lines from bottom of second column), but *Pembroke*.

Learner (Dunfermline). — *Preventing Second Swarms.*—1. Second swarms may be prevented from issuing by cutting out all queen-cells save one. This operation should be deferred for three or four days after the first, or top, swarm has issued, in order to select a ripe cell for leaving in the parent hive. 2. The reason why bees have been unwilling to enter sections this year is the very adverse weather prevailing all through the past summer. 3. The skep of bees purchased for delivery at end of September will be more profitably used if it is kept for swarming next year, the bees in it being of no more value than a driven lot, which may be had for a few shillings. If you have a ready-combed frame-hive to put the bees in they may be driven and put into it and fed up for winter; otherwise the first plan mentioned will be best.

Heather (Sidmouth).—*Building up Stocks from Driven Bees.*—Your only chance of successfully wintering driven bees in October is to put them on built-out combs and join two or three lots together. This done, and a full supply of well-made thick syrup given warm—after crowding the bees on as many combs as they can cover thickly, so that the food given may be taken down rapidly—the chances are in favour of their wintering all right, but the work should be started without delay.

J. B. (Surrey).—*Varieties of Heaths.*—No. 1 is *Calluna vulgaris*, or common ling, No. 2 being *Erica cinerea*, or bell-heather. No. 1 is by far the best for bee-forage.

W. C. Stone (Wellington, Som.).—Sprig of heath sent is the Calluna, and is excellent bee-forage.

Perplexed (Olton).—Your letter must have miscarried in post.

Honey Samples.

Bunted (Isington Alton).—Sample is decidedly not clover honey, being dark in colour and poor in flavour. We cannot go so far as to say, it "is not honey at all," but it is poor stuff. Please send name of advertiser.

C. Checkby (Croydon).—Honey sent is very good in colour and consistency. It is partly from limes, but in other respects has the appearance of good clover honey.

Sarumite (Salisbury).—The flavour of sample is poor, but we clearly find a distinct aroma, though from a source unknown to us. It may be pure honey, though of inferior quality.

W. H. E. (New Barnet).—1. The sample forwarded is only fair in quality. 2. It is not good enough for showing. 3. The most perceptible flavour it bears is that from the limes.

J. C. (Swansea).—Replying seriatum to the points as numbered, we beg to say (1) quality is fairly good, and would stand well at a local show, but not in the open class at a big exhibition; (2) is light in colour, and will suit that class; (3) flavour fair; (4) consistency fair only; (5) bright and clear in colour; (6) aroma none.

(Mrs.) G. H. L. (Emsworth).—Sample sent consists mainly of "honey-dew" gathered from the oak trees you mention as near by. It is not fit for table use.

Suspected Combs.

F. J. Manning (Chester). — Comb sent contains drone-brood only, and this is of no use in diagnosing foul brood. We must have a sample of dead worker-brood before giving our opinion with regard to disease.

J. P. T. J. (Glamorgan).—Dead larvæ in comb resemble black brood, some of the chrysalides not being capped over. Comb is, however, very old and black, and in any case badly needs renewing.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

NOTICE THE LARGE ADVERTISEMENT in next week's "Bee Journal" for patent Spoon Rest; it will interest YOU.

WANTED, good English Extracted Honey.—SAMUEL JONES, Pensingrug, Henllan, R.S.O., Cardiganshire. c 29

7 STRONG STOCKS, in "W.B.C." Hives, and 4 empty ones; owner giving up bee-keeping.—Apply, M. MURRELL, Ingworth, Norwich. c 45

GRAND HARDY FINE PURE ENGLISH QUEENS, 1907 bred, 2s. 6d. each; also a quantity of old Queens to be sold cheap.—HELLARD, Tinsmith, Bridgwater, Somerset. c 37

DRIVEN BEES, warranted healthy, 3s. 6d. lot; package returnable.—CADMAN, Codsall Wood, Wolverhampton. c 36

PURE ENGLISH HONEY, good quality, sample 3d.; 58s. cwt.—DALTRY, Latimer-street, Oldham. c 32

BEE HOUSE, for 12 Colonies, with Extracting Room, £6, detachable; Bee House, for 15 Colonies, £6, detachable; 15 Colonies, on Frames, 10s. to 16s.; 5 empty Hives, 3s. to 6s.; 9 Rapid Feeders, 1s.; 6 14-lb. Honey Tins, 3d.; 1,200 Sections, in Flat, 1s. per 100; 5 Section Crates, complete, 3s. each; 20 new Brood Crates, 1s.; 15 new Shallow Frame Crates, 1s.; 50 Shallow Frames, half Waxed, 2d.; 100 Fully Drawn Out, 6d.; 100 Cardboard Section Boxes, glazed one side, 9d. dozen; 2 gross Tie-over Jars, 6s. gross; Ripener, 10s.; Hand Extractor, 14s.; Geared Extractor, 17s.; 16 Queen Excluders, 6d.; 10 Super Clearers, 9d.—STANDRING, 56, Central Drive, Blackpool. c 39

DRIVEN BEES, with Young Queen, 2s. 6d. lot.—C. WADEY, Broadstone, Dorset. b 88

FIFTEENTH SEASON.—Healthy Driven Bees, with young Fertile Queen, 4s. 6d. per lot, or 4-lb. lots, 5s.; extra Queens, in Introducing Cage, 2s. 6d. by post.—W. SOLE, Expert, Poplar Grove, New Malden, Surrey. c 35

GRAND LOT OF DRIVEN BEES, Healthy, free from foul brood, 4s. per lot; no less than 4-lb. lots sent out; boxes 6d., or returnable; Red Heather Queens, '07, 2s. 6d. each.—HARRISON, Bee Farm, Middleton, Pickering, Yorks. c 43

FOR SALE, 42 Hives and Stocks, large Extractor (almost new), Ripener, &c.—LADY PINK, Shrover, near Cosham, Hants. c 44

DRIVEN BEES, guaranteed Healthy, Strong Stocks, fertile Queen, 1s. 2d. lb., 3-lb. or 4-lb. lots.—ELKINS, Willow Grove, Salisbury. c 41

GARDENER (head working) wants Situation; life experience inside and out; 13 years' character; age 38; bee expert; fruit speciality.—HYDE, Holt, Ledbury. c 40

WANTED, at Once, 30 Drones; box sent.—J. SILVER, Croydon Grove, Croydon. c 38

DRIVEN BEES, 1s. 2d. per lb.; or single lots for uniting, with 1907 Queen, 3s.—WITHYCOMBE, Builder, Bridgwater. c 31

DRIVEN BEES.—Wanted, two or three lots, for Experimental Purposes; also a few Drawn-out Combs.—H. M. COOPER, Thorley, Isle of Wight. c 30

DRIVEN BEES, strong, healthy lots, with 1907 fertile Queens, 5s. lot.—THOMAS BRADFORD, Expert, 21, Little Park-street, Worcester. a 89

OVERSTOCKED.—Full 1-lb. tall tie-over Honey Jars, exact size ("Triangle" brand), 10d. per dozen, packed, on rail.—W. WOODLEY, Beedon, Newbury.

DRIVEN BEES, from Bar-Frame Hives, 1906 Queens, 5s. lot, cash with order; money returned if not satisfied; good workers; crate returnable.—G. A. GILLETT, Moreton-in-Marsh. c 28

Special Prepaid Advertisements.—*Continued.*

6 "COWAN" HIVES, with Stocks of English Bees, £9.—For further particulars write, W. EVANS, 11, Canfield-gardens, Hampstead. c 17

SURPLUS HIVES FOR SALE, used one and two seasons only, have never contained diseased Bees, cheap.—Particulars on application, SIMS, Stratford-road, Hall Green, Birmingham. c 18

FINEST QUALITY LIGHT-COLOURED EXTRACTED ENGLISH HONEY (1906 and 1907 crops), in 28-lb. tins, 8d. lb., f.o.r.; 5 cwt. and upwards, 70s. cwt., f.o.r.—C. DUNN-GARDNER, Fordham Abbey, near Soham, Cambs c 21

SPLENDID LARGE RIPE PLUMS, at 2s. per 14 lb., packages free, and carriage paid; satisfaction guaranteed.—R. BROWN, Flora Apiary, Somersham, Hunts. b 94

"ALNWICK" FEEDER, made of wood, zinc, and glass, for Starving Stocks and Driven Bees. Price 6d. each; postage of one costs 3d., two 4d., six 6d., dozen 10d.—J. BALMBRA, East Parade, Alnwick. b 97

I CAN CONFIDENTLY RECOMMEND young man, single, who requires situation, good experience outdoor, fruit, vegetables, bees, and capable of taking charge of Apiary.—EDWARD ROBB, Outwell, Wisbech. c 4

MESSRS. STONE AND SONS, Chemists, Exeter, are buyers of English Beeswax, in large or small quantities.—Write, stating quantity and price required. b 85

FOR SALE, Strong, Well-made Rustless Honey Extractor, 12s.; Ripener, 10s.; both nearly new.—SHACKLETON, Thorner, Leeds. b 92

HEALTHY DRIVEN BEES, with fertile Queen, 5s. per lot; strong 3-Frame Nucleus, 1907 Queen, 8s. 6d. Exchange Honey in Bulk. Strong Healthy Stocks, in Straw Skeps, heavy with Heather Stores, 12s. 6d., 13s. 6d.; Fertile Queens, 2s., guaranteed.—W. WOODS, Normandy, Guildford. b 69

QUEENS, CHOICE 1907, bred from my Non-Swarming Stocks, 3s. 6d. each, per return.—TAYLOR, Boldmere, Wylde Green, near Birmingham. c 42

40 YEARS' EXPERIENCE AMONG THE BEES. Healthy Driven lots, 3s. 6d., good lots.—DENNETT, Whitchurch, Hants. b 62

HEALTHY DRIVEN BEES, with good Queen, 5s., package returnable; extra Queens, 2s. 6d. each.—JOHN P. PHILLIPS, Spetchley, Worcester. c 33

CHAPMAN HONEY PLANTS.—Extra Strong Plants, to blossom 1908, 12 3s., 6 1s. 9d., package free; Seed, 6d. and 1s.—JOHN P. PHILLIPS, Spetchley, Worcester. c 34

NEW SECTIONS WANTED, first quality, cash.—SMITH AND CO., Cambridge-street, Hyde Park. b 43

FINE TESTED 1907 FERTILE ENGLISH QUEENS, of my hardy prolific strain, 3s. 6d. each, guaranteed healthy and safe arrival.—WHITING, Valley Apiaries, Hundon, Clare, Suffolk. b 44

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order.—EDWARD REYNOLDS, manufacturer, Andover, Hants.

STING-PROOF GLOVES, 2s. 2d.; with Sleeves, 2s. 7d., post free. Why pay more?—KENT, manufacturer, Dorchester.

WANTED, for Scientific purposes, DEAD QUEEN BEES, and WORKER HORNETS. Will brother Bee-keepers oblige?—HERROD, Apiary, Luton.

Editorial, Notices, &c.

CO-OPERATION AMONG BEE-KEEPERS.

INSURANCE AGAINST FOUL BROOD.

In a recent issue of the *Bulletin de la Société Romande* there appears a report of the proceedings at a meeting of Bernese bee-keepers belonging to the Seeland section of the society. About 250 members were present, and M. Leuenberger, of Berne, introduced the subject of insurance against foul brood, which he thought had now become necessary. The disease was spreading more and more in consequence of the exchange of swarms, the intercommunication amongst bee-keepers generally, and also because many persons who keep bees have no elementary knowledge of the subject and will follow no advice, so that all these causes tend to spread the evil. In Switzerland there are no laws giving compulsory powers of inspection, and the speaker, therefore, thought they were not so well off as in more favoured lands where such powers existed and were in force. The Bee-keepers' Association had made rules for combating foul brood, and has started an insurance scheme. It is hoped that these rules will be loyally observed by the several sections of the society.

M. Leuenberger concluded by saying that the Bernese bee-keepers welcomed with joy these efforts of the central association in establishing an insurance scheme, and hoped the authorities would aid bee-keepers in their fight against foul brood. M. Haudenschild, of Laugnau, followed, and described the different phases of the disease, and asked members to send any suspected combs to Dr. R. Burri for examination. He recommended that, in view of the rapid spread of the disease, hives should be examined frequently so as to make sure of their healthy condition or otherwise. Also, on any appearance of disease, all neighbouring bee-keepers should be informed so that they may carefully examine their hives, and then all affected colonies be subjected to treatment.

We commend the above report to the notice of our readers as affording food for reflection on the value of co-operation for mutual help on a subject on which there is more or less difference of opinion among British bee-keepers, for, whatever divergence of views may exist, there is perfect unanimity with regard to the reality of the evil.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held at 105, Jermyn Street, S.W., on Thursday, the 19th inst., Mr. W. F. Reid being called to the chair. There were also present Miss Gayton, Miss Hall, Messrs. R. T. Andrews, W. Broughton Carr, H. Jonas, J. B. Lamb, F. B. White, and the secretary. Letters apologising for inability to attend were received from Mr. T. W. Cowan, Dr. Elliot, Colonel Walker, Mr. W. H. Harris, Mr. A. G. Pugh, and Mr. Ernest Walker.

The minutes of the previous meeting were read and confirmed.

Three new members were elected, viz., Mr. W. Witt, Burnham, 37, Glenluce Road, Blackheath, S.E.; Mr. R. O. Fordham, Broom Hall, Biggleswade; Miss M. G. Foster, Poplar Hall, Hawkhurst, Kent.

The Finance Committee's report, presented by Mr. Jonas, gave details of receipts and expenditure to date. A list of payments recommended was also submitted. The report was approved.

Reports upon examinations of candidates for third-class expert certificates, held in Berkshire, Cumberland, Derbyshire, Devonshire, Dumfriesshire, Kent, Lancashire, Lincolnshire, Middlesex, Northamptonshire, Nottinghamshire, Somersetshire, Worcestershire, and Yorkshire, were considered, and as a result it was decided to award certificates to the following forty-three candidates:—Misses Rosetta E. Bateman, Cynthia M. Bell, Cornelia A. Craddock, Jessie P. Cottingham, Mary E. Dawson, Isabella Downie, Joan de Image, Amy Jameson, Mary A. Jenkinson, Dorothy R. Jones, Rosalie Mercer, Helen Parsons, Katmeen Parsons, Gladys Palmer, Dorothy Riley, Phyllis M. Rope, Hilda Hasluck, Turner, Hazel, Caroline Wontner: Messrs. Ralph Stanley Askew, Wm. Matthews Bailey, Frank Beale, Chas. Edwd. Billson, Chas. Johnson Burnett, Alfred Bishop, Wm. Copsey, Rev. W. H. Collins, Stanley Downes, Arthur Firkin, Jas. Hadfield, Geo. Wm. Kennedy, Walter J. Lang, J. Norman Longfield, Geo. Mason, F. E. May, Wm. Mountney, Arthur W. Patten, Percival Birkett Rigg, Wm. Henry Sims, Geo. Southcott, Henry Alfred Spencer, David Vallance, John Wilks, and Daniel Wilson, jun.

A number of letters containing suggestions in regard to regulations for future examinations were referred to the Education Committee for consideration.

Correspondence respecting claims for damages under the Insurance Scheme was put before the meeting, and the secretary instructed thereon.

It was resolved to hold a conversazione of members on Thursday, October 10, when one of the subjects for discussion will be "The Difficulties of the Present Season." The meeting will commence at 5 p.m. Light refreshments will be provided.

THE GROCERS' AND KINDRED TRADES' EXHIBITION.

HONEY SHOW AT THE AGRICULTURAL HALL.

The fifteenth annual Exhibition and Market of the Grocery and Allied Trades, held at the Agricultural Hall, London, was opened on Saturday last, the 21st inst., and continues till the end of the present week.

Owing to space being limited we shall have to defer making any comments on the exhibits until our next issue, but taking the adverse bee-season into consideration, the show was a very good one, as will be admitted by those readers who pay a visit to the Agricultural Hall during the week. Several of the leading bee-appliance manufacturers have staged attractive exhibits (not for competition) which should prove a source of interest to the general public and bee-men alike. These exhibits are located in the gallery, not in the honey section of the show, which is staged this year in Berners Hall.

Mr. W. Broughton Carr, London, and Mr. W. F. Reid, Addlestone, Surrey, officiated as judges, and made the following

AWARDS.

Outfit for Beginner in Bee-keeping.—1st, C. L. Greenhill, Wimbledon; 2nd, E. H. Taylor, Welwyn.

Display of Honey (Comb and Extracted) and Honey-products, shown in suitably attractive form for a tradesman's window (7 entries).—1st (£4 and B.B.K.A. Silver Medal), J. Waddell, Alwinton, Northumberland; 2nd (£3), C. W. Dyer, Compton, Newbury; 3rd (£2), J. Pearman, Penny Long Lane, Derby; 4th (£1), E. C. Wareing, Staverton, Daventry; v.h.c., W. Patchett, Cabourne, Caistor; h.c., R. H. Baynes, 51, Bridge Street, Cambridge.

Twelve 1-*lb. Sections* (18 entries).—1st (£1 15s. and Bronze Medal), J. Waddell; 2nd (£1 5s.), E. C. Wareing; 3rd (15s.), E. Robb, Outwell, Wisbech; 4th (10s.), R. H. Baynes; 5th (5s.), J. Pearman; v.h.c., O. R. Frankenstein, 1, St. James's Terrace, Regent's Park; h.c., E. H. Pankhurst, Meopham, Kent; C. L. Greenhill.

Twelve 1-*lb. Heather Sections* (7 entries).—1st (20s.), J. Pearman; 2nd (15s), T. Walker, Esthwaite, Hawkshead; 3rd (10s.), O. R. Frankenstein; c., T. Sleight, Old Danesmore, Chesterfield.

Three Shallow-frames Comb Honey for Extracting (7 entries).—1st (£1), J. Waddell; 2nd (15s.), A. E. Young, 34, East Street, Chatham; 3rd (10s.), J. Trineman, Bridgend, Lostwithiel, Cornwall; v.h.c., W. L. Betts, Mansfield Woodhouse, Notts; h.c., G. T. Lynds, Longfield Hill, Kent.

Twelve 1-*lb. Jars Light-coloured Extracted Honey* (32 entries).—1st (£1 15s. and B.B.K.A. Certificate), R. W. Lloyd, 8, Norwich Road, Thetford; 2nd (£1 5s.), J. Pearman; 3rd (15s.), H. W. Saunders, 43, Croxton Road, Thetford; 4th (10s.), H. Berry, Llanrwst; 5th (5s.), J. Lee and Son, Highbury, London, N.; v.h.c., T. G. Hillier, Tarrant, Andover; J. Boyes, Queen's Head, Cardiff; T. S. Holdsworth, Kirton Lindsey; h.c., H. Dilworth, Shangton, Kibworth, Leicester; T. S. Holdsworth.

Twelve 1-*lb. Jars Medium-coloured Extracted Honey* (29 entries).—1st (£1 5s.), Mrs. F. Harris, Sibsey, Boston; 2nd (£1), G. Hunt, Hawton Road, Newark, Notts; 3rd (15s.), T. Marshall, Sutton-on-Trent, Newark, Notts; 4th (10s.), T. G. Lynds; h.c., G. S. Faunch, 42, York Road, Ilford, Essex; J. Herrod, The Manse, Sutton-on-Trent; E. C. R. White, Newton Toney, Salisbury.

Twelve 1-*lb. Jars Dark-coloured Extracted Honey* (12 entries).—1st (£1), G. Hunt; 2nd (15s.), R. H. Baynes; 3rd (10s.), F. W. Frusher, Crowland, Peterborough; v.h.c., A. Ward, Great Bowden, Market Harborough; h.c., A. H. Greenslade, Sutton, Surrey; G. Marshall, Norwell, Newark, Notts.

Twelve 1-*lb. Jars Heather Honey* (8 entries).—1st (£1), A. E. Young; 2nd (15s.), T. Sleight; 3rd (10s.), W. Sproston, Shugborough, Great Haywood, Staffs; v.h.c., T. Walker; E. C. Wareing; h.c., H. Berry.

Twelve 1-*lb. Jars Heather-blend Honey* (11 entries).—1st (20s.), J. W. Mason, Orielton School, Pembroke; 2nd (15s.), H. Samways, Maesybont, Llandebie, Carmarthen; 3rd (10s.), O. R. Frankenstein; 4th (5s.), J. Waddell; v.h.c., E. C. Wareing; J. Willson.

Twelve 1-*lb. Jars Granulated Honey* (19 entries).—1st (£1 5s.), J. Waddell; 2nd (£1), J. D. Softly, Great Massingham, King's Lynn; 3rd (15s.), W. L. Betts; 4th (10s.), J. Willson; h.c., J. Boys; F. W. Frusher; J. Berry; c., R. H. Baynes.

Beeswax in Cakes, Quality of Wax, Form of Cakes and Package suitable for retail counter trade (10 entries).—1st (£1), J. Pearman; 2nd (15s.), C. Lodge, High Easter, Chelmsford; 3rd (10s.), T. Marshall; 4th (5s.), W. G. Hills, Sherrards Cottage, Welwyn; v.h.c., J. Herrod; h.c., F. W. Frusher.

Beeswax judged for Quality of Wax only (16 entries).—1st (£1), J. Waddell; 2nd (15s.), W. Patchett; 3rd (10s.), G. Hunt; 4th (5s.), H. W. Saunders; v.h.c., Mrs. Harris; F. W. Frusher; h.c., J. Price, Old Hill, Staffs; A. S. Hoare, Saltash, Cornwall; W. G. Hills; A. C. Tew; T. S. Holdsworth.

HONEY SELLING CLASSES.

Certificates of Merit awarded to:—G. W. Bullamore, Albury, Much Hadham,

Herts; R. H. Baynes; G. E. Hudder, The Old Vicarage, Brightlingsea; J. M. Best, Trewon Apiary, St. Austell, Cornwall.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications. and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES FROM HANTS.

THE POOR SEASON AND CURRENT PRICES.

[6838.] The season now drawn to a close has proved a poor one in this district as regards honey, especially with sections. Swarms were plentiful as a rule, and in many cases parent stocks were left in strong condition after the swarms had issued. The honey-crop proves to be about one-fifth of what we term a fair season, and like Mr. Quayle's report in last week's B.B.J. (6834, page 375), most bee-keepers will have to give their bees a greater bulk of syrup than the honey taken from the hives. However, we again "come up smiling," and look forward to a better time next year. At the heather, about five miles from here, the bees have saved their keepers the necessity of feeding, most stocks yielding a fair amount of surplus in return for care taken.

I agree with Mr. Woodley that with the poor crop prices should rise, and also bemoan the absence of "current prices," for at present it is like groping in the dark to offer your honey at a sum which will compare reasonably with brother bee-keepers without cutting. Other articles of commerce have their market prices; why not honey? Perhaps we bee-keepers are too conservative in the matter, and I should like to see a thorough discussion in the B.B.J. during the winter in order to arrive at something tangible in the way of a decent price for our wares.

Never have I known so many sections to contain drone-grubs instead of the coveted nectar. At the beginning of the season the bees built and filled the sections well, then came a fortnight or three weeks of bad weather, and they consumed what had been already stored. In consequence prolific queens, having filled the brood-chamber (as planned by man), proceeded forthwith to play a game with the bee-keeper, filling racks—full of combed sections—with a fine show of nice plump drones. During the past few years I have made it a point, when dealing with an extra good colony with a prolific queen, to add a box of shallow-frames with worker-combs to the brood-nest, and in the majority of cases this prevented swarming, although in one case in which I *doubled* the brood-nest this year a fine swarm issued.

The I.O.W. Conundrum.—I have recently returned from a visit to the bee-plague's paradise, to wit, the Isle of Wight, and have found that, although a few bees are still in evidence, the struggle continues. Mr. J. Silver describes the disease as "the late epidemic." I am not quite sure what he means by that phrase, whether it is "late" because there are practically no bees left in the island to become infected, or that the disease is past and gone! But, whatever he may mean, I can safely assert that there *are* a few hives left with bees in them; and, what is more, the plague is still with the few that remain.

I note with pleasure the desire to help our unfortunate brothers in the island, but don't quite see the object of raising money at present. If it is to buy bees and send them over, I think it will be throwing the money away. When the epidemic is really past and gone, monetary aid will no doubt be welcome, for a considerable amount has been sunk in appliances, which will need to be replaced. By far the better proposal appeared in the B.B.J. of the 5th inst. (6823, page 354) in Mr. Silver's suggestion. Where brother bee-keepers know of bees condemned to the sulphur-pit, and have the time and inclination to rescue the poor creatures, there is their opportunity to extend a helping hand. The bees will cost but little, and if sent to a good bee-man they will have every chance possible of getting through the coming winter. If the plague rules otherwise, it will be the means of "keeping the game going," and giving the opportunity of supplying specimens to the Board of Agriculture, who are investigating the cause and probable cure. I think that those who have pluckily "hung on" during the past three years deserve recognition and first aid, for without their interest and help it is quite probable that the bees would have gone and the inquiry never been instituted. Mr. H. M. Cooper, of Yarmouth, stands first on the list in my opinion. Then I would mention haphazard Mr. Cooper, of Shanklin, the Misses Gibson, Porchfield, and Mr. A. E. James, Ryde. Other names might be added, taken from the report made by Mr. Imms, which appeared in a recent number of the B.B.J. I am not holding a brief for any one of these individuals, but I am sure that a lot or two of driven bees would cheer their hearts in the struggle,

as showing that there is some sympathy abroad amongst more fortunate bee-keepers. I may say that I have put these sentiments into practice so far as I have at present been able.—HANTS BEE, September 17.

ISLE OF WIGHT BEE-DISEASE.

THE PROPOSED RELIEF FUND.

[6839.] I have seen the letters in the B.B.J. *re* the Isle of Wight bee-extinction, and believe the destruction to be now almost complete, and also that no one has any idea of the causes that have brought about so dire a sweep-out.

With reference to the letter of Mr. J. Silver in your issue of the 5th inst. (6823, page 354), to which my attention has been drawn, I would say Mr. Cooper, of Thorley, Isle of Wight, has been more intimately connected with the pest than anyone else. He is our local representative and expert.

There are doubtless bee-keepers in the Isle of Wight who would be glad to experiment with fresh stocks if sent to them free, but I do not think it would be wise at the present crisis to make a general move to re-stock the island. The disease will probably exhaust itself, and a move to restart would then be useful.

If any mainland bee-keepers would like to show sympathy by sending bees to those who have suffered, Mr. Cooper will be pleased to put them in communication with those most likely to make good use of the opportunity. I do not, however, think any general charity-fund is practicable, such as the B.B.J. suggests. The difficulties in working it equitably would prove insuperable. At the same time, the losses of individuals have been, in many cases, cruel, and it is hard to hold back. We want light on the disease most of all, for if it spreads over England our industry must go.—E. H. BELLAIRS, Hon. Secretary, Hants and Isle of Wight B.K.A., Bransgore, Christchurch, September 15.

[The above communication from the hon. secretary of the Hants and Isle of Wight B.K.A. will tend to clear the air of uncertainty so far as regards the county association taking any active share in, or responsibility with regard to, a relief fund such as that proposed by Mr. J. Silver in our issue of September 5. The latter gentleman, therefore, might take steps to act in conjunction with Mr. H. M. Cooper on the lines suggested by Mr. Bellairs. If this is done, we will gladly publish any details which may be found useful in promoting the object in view if furnished to us by the gentleman named.

For the rest, we may be allowed to say the B.B.J. has never suggested a "general charity-fund," as stated above by Mr. Bellairs. The praiseworthy proposal to afford help to "the hard-smitten bee-men of the island" came from our esteemed contributor, Mr. L. S. Crawshaw. Our suggestion was to the effect that, if the matter was taken up at all, the county association was the proper body to deal with it.—EDS.]

WILL BEES PURLOIN EGGS?

THE STOLEN EGG!

[6840.] In the B.B.J. of September 12 (page 366) I gave details of a queenless and broodless nucleus in a baby mating-box supplying themselves with an egg.

I had not examined the box since August 31—when the egg was first seen in the cell—until yesterday (September 16), when I found a very fine black virgin queen on the comb. I am afraid it is now too late for any chance of her being mated, or I would certainly try her as head of a good stock.

My usual practice is to kill any queen reared in these baby mating-boxes, preferring to have queens reared in strong colonies; but this queen is as fine a virgin as I ever saw, although the little nucleus in which she was reared is not more than about 500 bees strong; whilst the comb-surface is only three-fourths that of a standard brood-frame.

This question of bees stealing eggs from another hive has often been debated, and possibly other bee-men have experiences in the same line to offer. In this instance all the evidence goes to show that the queenless bees "borrowed" an egg, transported it without damage to their own tiny hive, and successfully raised a queen for themselves.—T. JOHNSON, Dunham Massey, Altrincham.

(*Correspondence continued on page* 386.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

Mr. F. E. Green, the well-known writer, in response to our request for a few "notes" to accompany the picture of his bee-garden, writes as follows:—

"Three years ago I purchased three empty hives; to-day I have twenty-seven bar-frame hives stocked with bees, and two nucleus-hives headed by young queens. In my book, 'How I Work My Small Farm,' I have published the balance-sheet of my apiary for last year, at which time I had only fifteen stocks of bees, which yielded me 275 lb. of honey, and this year I have not got 100 lb. from nearly double that number of stocks. Not that I should complain, for as yet I have not lost more than two stocks of bees from starvation, and am doubtful if the extinction of these two hives has not been accelerated by the fiendish ferocity

of wasps, which are daily trying every colony in my apiary.

"An interesting result of this year's working has been the yield of honey from early swarms, and on the other hand the lack of surplus honey from stocks. Another feature of the present season has been the steady crystallisation of honey in the combs, which, being left in the hives during the cold and sunless June, has made extracting almost impossible this year.

"I have had no experience whatever with foul brood. The chief bee-forage in and around my small farm of now thirty acres is white clover. Every spring I purchase a few pounds of white clover-seed, and sow it about my fields. A dressing of basic slag last autumn brought up a heavy crop of hop-clover or trefoil, which was freely visited by the bees during the year. They also obtain honey from the numerous fruit trees and bushes growing on my little farm. I have my doubts, though, whether strawberry blossoms are much visited by bees, owing to our inclement springs and early summers. The old-fashioned Michaelmas daisies are beloved by bees, who hover round them all day long at this time of the year, and I have now planted divided roots of these between each colony. In front of the hives, as shown in the picture, are rows of blackcurrant bushes, and I may say that it is very rare for me to take a swarm at the first attempt, for the bees invariably swarm in the spool of these bushes. One swarm (which I think really consisted of two united swarms) weighed 11 lb. net, and though the bees were never fed, they yielded some 25 lb. of honey.

"One of the chief beauties of bee-culture is the amiability of those who cultivate this craft. It has been by the help of one or two neighbours or by assiduous reading of bee-literature that I have been able to get together an apiary of thirty hives, which I attend to entirely by myself, even in the midst of a busy season of haymaking and fruit-picking.

MR. F. E. GREEN'S APIARY, NEWDIGATE, SURREY.
(Author of "How I Work My Small Farm.")

"Around the honey-bee is being evolved a literature delicate yet virile, full of the fragrance of freshly-gathered flowers, yet tingling with the rapier-like thrusts of the sting. To watch the sacrifice of the individual for the race quickens one's attempts to develop a higher type of humanity. Honey-gathering cannot be all unalloyed sweetness, for the bodies of the slain lying on the alighting-board make one realise that bees cannot tolerate those who live on the industry of others, and the one drone that ventures to the giddy height of being the father of the race lays down his life in achieving that big honour."

(*Correspondence continued from page* 384)

FRESH AIR AND FOUL BROOD.

[6841.] Although not a bee-keeper (through want of space to keep a few hives), I take in your charming little BEE JOURNAL every week, and beg to support the views of Mr. Stapleton and Mr. Farmer in their contention that the diseases of bees are caused by bad ventilation, which creates insanitary conditions. Bacteria, as is well known, are always present, and only require a suitable medium in order to multiply; and even scientists get at cross-purposes on the subject of bacteria, which will at all times give way to fresh air, cleanliness, and sunlight. I am about to make a hive for a friend, and propose to make it as perfect as a good hive should be for all purposes. The sides I shall make of $\frac{1}{2}$-in. pine, with 1-in. space on all sides filled with cork-dust and a small piece of camphor or naphthaline. I shall use thin three-ply veneer for the hive-body, which will make it very light; the veneer I shall plane very smooth and put on a coat of good shellac polish, so that no bacteria can lodge on or about the frames. I shall also polish the whole inside, and if the bees are then looked after in the proper manner I can be sure that no disease will ever get a foothold.—W. F. HARRISON, Huddersfield, September 7.

[Without wishing in the slightest degree to damp our correspondent's commendable enthusiasm, we strongly advise him to gain a little practical experience before drawing conclusions on the scientific side of bee-keeping. A careful perusal of the "Guide Book" and a year's work among bees will save him much thought and labour in both directions. He may, however, take comfort from our assurance that most bee-men (ourselves included) have at some time or other during their novitiate days entertained the idea that they could make a better and more perfect hive than any other on the market, though many have come back to more orthodox views later on.—EDS.]

OCEAN PARCEL POST REGULATIONS.

CURIOUS ARRANGEMENT IN HONEY-SENDING.

[6842.] I observe that you have been good enough to notice my remarks in the London *Daily News re* above. The parcel in question was taken in at the local post-office, and the fee of 2s. paid. A few days later I received a letter from the post-master at Liverpool to the effect that the parcel was in his hands, and that the Post Office could not send honey to the United States, but that if I sent 3s. further he would hand it over to a semi-official company for conveyance. I duly sent the 3s., remarking that, of course, he could not personally help the regulations, but that I considered it should be possible for the Post Office itself to carry 3 lb. of honey to America for less than 5s. A few days later I was surprised to get a further letter from Liverpool, returning the 3s., and stating that they found the honey to be in comb-form, and not extracted, which enabled the Post Office to carry it all the way for 2s. This arrangement is, I think, quite in the way of being a postal curiosity. Why should 3 lb. of honey in a soldered tin be refused, and the same substance in comb be carried? I should say the three sections were by far the more fragile.

The American Customs regulations may, of course, be to blame rather than our Post Office. The American protective system aims at excluding foreign products, and, possibly, it suits the conditions of the United States, just as Free Trade appears to suit a great many people here, the conditions being very different in both countries. Still, I think that the regulations are a trifle absurd in this case. At any rate, the matter is of interest to bee-keepers, many of whom, like myself, have perhaps more friends in the States than in the British Isles, and like to exchange sentimental gifts, even if the postage be almost prohibitive.

I trust that the United States will soon make the friendly interchange of gifts more easy. I find I can send honey all the way to Shanghai, in China, for 1s., in tin or otherwise. A Chinese gentleman who had some last year said it was remarkably good, as, indeed, it was, for it is a peculiarity of this district that I never get second-class honey, while not far away from me a very inferior quality is gathered. — W. J. FARMER, Redruth.

THE MANY USES OF HONEY.

[6843.] I send you a Press cutting which should be of interest to bee-keepers generally, and I suggest that the Surrey B.K.A. give a few hints in the B.B.J. showing how all this is done. We may then perhaps next year show our village bee-keepers the value of honey as food, as was done at the Crystal Palace.—OXON, Reading.

"A most informing illustration of the developing industry of bee-keeping and the value of honey as an article of diet was shown yesterday at the Crystal Palace, and the uses to which honey can be put in the place of sugar were demonstrated. Cakes made with honey keep moist and fresh for weeks; no vinegar can compare with honey vinegar, and honey pickles,

honey jams, and honey sweets are incomparable. Samples of all these products, as well as of the old English drink, mead, were yesterday exhibited by the Surrey Bee-keepers' Association, which now numbers 650 members, many of them cottagers.

"Such a show ought to be taken on tour through the villages; if it were, it would soon be no longer true to say that we import £50,000 worth of honey, and eat less than any nation in Europe or America."

EXPERTS' CERTIFICATES.

[6844.] I am glad to learn from your foot-note to my letter (6828, page 364) that the subject of raising the standard of the examinations is to be gone into by a committee appointed by the B.B.K.A. We may, I am sure, safely leave the matter in their hands. My object in ventilating the subject in your columns was simply to point out the direction in which reform is needed. When the committee is appointed, I shall be pleased to offer any information or suggestions which may be thought necessary. —G. W. AVERY, Armathwaite, Cumberland, September 16.

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

Top Entrances.—This subject crops up periodically, and of late several bee-keepers outside this country have devoted considerable attention to testing its good points. While not enamoured of it, I feel it may have something in its favour. One writer and experimenter says:—"A very unexpected thing happened. There was considerably less mortality during the winter in the hives with the entrance above, or at least a much less number of dead bees found on the alighting-board, and an examination showed that the bottom boards were clean, and that the dead had not been left inside, as might be suspected." The system finds some favour in Germany.

Wired Foundation.—It has often been advocated that a gain would be secured if the manufacturers could sell foundation to bee-keepers with the wires embedded therein. The *American Bee-keeper* lately contained an article showing miserable results from an extended use of such wired foundation, but in the issue for August there is a refutation of Mr. Allen Latham's conclusions. This writer practises the "cross-wiring plan," with vertical wires in the foundation and horizontal wires in the frames. It seems to me that there would be far too many wires, and that the game is scarcely worth the candle. If, however, the wires could be embedded by the manufacturer at a merely nominal cost the gain to the busy business man or the extensive bee-keeper would be considerable.

Dark Bees Hardiest.—Mr. J. L. Byer, in "Canadian Beedom," has the following:—"Just lately I was speaking with a bee-keeper who has been in a large number of apiaries in Ontario, and he remarked that in every case the dark bees—Carniolan and natives—had stood the adverse conditions much better than the Italians. My own personal experience," he continues, "is exactly in accord with this view, and the very few weak colonies I have are nearly all headed by Italian queens. The very yellow or five-banders have suffered the worst: in fact, through these parts they have been cleaned out entirely. It seems to be quite the general opinion that these very yellow bees are not so hardy as the leather-coloured Italians, yet I have never seen a good explanation as to why this is the case." Several correspondents of *Gleanings* report like results.

Thick Combs.—Mr. Townsend, in the *Bee-keepers' Review*, goes solid for very thick combs for extracting. "With $1\frac{3}{4}$-in. spacing we get great fat combs of honey, and then we run our uncapping-knife deep, cutting the comb clear down even with the frame, and there is rarely ever a comb so uneven but the knife will uncap it the first time over. It is possible to uncap much faster, and there are fewer combs to handle. I do not think it would be putting it too strong to say that two ten-frame upper stories, with eight combs in, can be uncapped as quickly as one with ten frames, and then the eight combs can be extracted in one-fifth less time." He has a good deal more to say in favour of these thick bricks of honey.

Distance Bees Fly.—Messrs. C. P. Dadant and Louis H. Scholl both take up the cudgels in the *American Bee Journal* in favour of short-distance travelling. By means of a graphic diagram the first-named makes some telling points to support his conclusion "that bees do not usually travel over two miles in search of honey." Mr. Scholl had two yards only one and a half miles apart. Near one of them a compositæ bloomed profusely. The bees of the one yard stored their combs heavily, there being the roar of a big honey-flow during the time of the yield. The bees at the other yard did nothing all the summer. They knew absolutely nothing of the good time their neighbours were having only one and a half miles away. Now, why did not they find those flowers? Echo only answers "Why?"

Dandelion Honey.—*Gleanings*, page 839 *et seq.*, has a highly eulogistic article by its veteran editor on this

flower. "It makes Medina a land flowing with milk and honey at the same time." Mr. E. R. Root adds:—"It comes out just in the nick of time before fruit bloom, and the way bees swarmed on it almost made us think of the roar on the basswoods of midsummer. The dandelion as a bee-plant is coming to be more and more important. It yields both honey and pollen at a time of year when they will do the most good, giving the bees a stimulus much needed when they come out of winter quarters." Dr. Miller also sings the praises of the dandelion as a honey-plant.

The "American Bee Journal."—This bee-paper is now published as a monthly at the low cost of 25 cents a year. Surely this is one of the most tempting offers ever made to the fraternity, and when we remember its general excellence, the get-up and finish of the new issue, and the admirable band of contributors giving the fruits of their seasoned experience, the marvel is that so much can be given for so little. Personally, I set the "Old Reliable" in the front rank of bee-journals, and I hope Mr. York will soon secure his 50,000 subscribers. For this country the *Journal* costs 25 cents, plus 35 cents for postage, equal to half-a-crown of our money.

A Poor Honey-season.—All reports agree that the surplus take will be a light one, not only in the States, but also in Canada; and all the bee-papers impress on sellers to demand a good price. Here the same good advice may be taken with profit.

Queries and Replies.

[3606.] *Wintering Nuclei.*—Would you be so kind as to let me have an answer on the following questions through your most valuable BEE JOURNAL? 1. I have a small quantity of honey, good in quality but thin. The stock that it came off was fed (owing to the bad spring) right up to the time the super was put on, but of course not after. Would the feeding affect the honey in the super, as very little was left in the brood-nest when I supered? 2. I have two four-frame nucleus-hives, both strong in bees, that I intend wintering together in one hive, with wire-cloth dummy between. What quantity of stores should each lot contain to carry them through the winter? I may say they have been side by side in one hive for the last month, and both queens are laying well; they have separate entrances, of course. 3. Please let me know if the enclosed dead queen is a virgin or fertile?—G. E. H., Campden.

REPLY.—1 Not at all; bees do not carry syrup up into supers if the latter are given after feeding has ceased. 2. You should provide each nucleus with 8 lb. or 10 lb. of food, and watch the condition of stores in spring to make sure all is right. The nucleus in question should do very well judging by their condition, as described. 3. Queen has the appearance of a virgin, but is too dried up for microscopical examination.

[3607.] *Disinfecting Store-combs.*—I have been greatly troubled with foul brood amongst my bees, from what cause I cannot say, as I keep everything scrupulously clean; and as I have several frames of beautiful white comb taken from infected hives, but showing no signs of brood whatever, I ask: Would it be safe to use these combs after submitting them to the following treatment: Immerse them, say, for twenty-four hours in a bath of strong carbolic acid, then place them for a similar period in a gently-flowing stream, and finally dry them in the sun? It seems to me that if those blackguardly bacilli are capable of destruction this course ought to annihilate them. Awaiting your reply, I send name for reference.—GLEN, N.B., September 17.

P.S.—This has been a poor season here. I have sixteen hives, and do not think I shall get 100 good sections from the lot.

REPLY.—The only deviation we suggest from the proposed method of disinfecting would be to use soluble phenyle in lieu of "strong carbolic acid." After soaking combs for twenty-four hours in the latter it would take a long time to make them either acceptable to the bees or suitable for storing surplus honey in. Referring to your poor honey return, you have the consolation of knowing that many bee-men this year have got no surplus and have had to feed up for winter. Therefore, as your very wise Scotch proverb says, "There's no an ill but micht be waur."

[3608.] *A Lady Bee-keeper's Report.*—In going over all my hives yesterday I found a frame with enclosed piece of comb. I have never seen foul brood—it is from one of my oldest hives; will you kindly tell me through your BRITISH BEE JOURNAL if my fears are correct? The season has been poor here for honey, but not so bad, I think, as in many places. I have ten hives in all, including three this year's swarms, and I have taken about 100 lb. of surplus honey from them in all. My intention is to feed at once, in order to give the bees plenty of food for winter. The swarms have plenty of stores without feeding, but I have taken no honey from them at all. I have also only taken shallow-frames and racks of sections from my seven stock-hives, but I find the frames in brood-chambers are only filled about half-way down, so am feeding them to make up for a possible shortage. Though the above report is not much to boast of, I am hoping for better results in the future.—LAURA HAVELL, Oxon., September 19.

REPLY.—There is no foul brood in comb sent; in fact, the only two sealed cells contain nothing but the decaying remains of drone-larvæ, which afford no help whatever in diagnosing disease. The comb itself is, however, so black and thick from sheer old age as to be worthless for all practical purpose save melting down for wax, and not much at that. We think that, on the whole, you have done very well for so poor a season.

HIGH COURT OF JUSTICE.

SPARENBORG AND ANOTHER V. BARNES.

This was an application by the plaintiffs for an interim injunction to restrain the defendant, John Nathaniel Barnes, from keeping bees at his premises, Braeside, Foxley Lane, Purley, in the county of Surrey, in such manner as to cause a nuisance to the plaintiffs as owners and occupiers of the adjoining land and premises on the north side and north-east of the defendant's premises. It appeared

that in September, 1905, the plaintiff Sparenborg purchased from the defendant a plot of ground at Purley, on which he built his residence named Winsome. This plot was close to the defendant's garden, where the bees were kept. According to an affidavit by one of the plaintiffs, the hives had increased in number from one to ten. They contained on an estimate half a million bees, which were a source of danger and annoyance to persons using the plaintiffs' garden. According to an affidavit filed on the part of the defendant, the plaintiffs knew of the existence of the hives from the first. Only six of the ten hives were full, and the bees were good-tempered.

Mr. Beebee, who appeared for the plaintiffs, submitted that the bees were a nuisance. It was not denied by the defendant that one of the plaintiffs had been stung. A bee might be entitled to its first sting.

Mr. Justice Parker.—It can only give one sting. (Laughter.)

Mr. W. Saunderson (for the defendant).—There have only been five stings in two years, so that the damage done is not serious.

Mr. Beebee.—The defendant has recognised that it is dangerous, for he has already offered to raise an 8-ft. hoarding to keep the bees out.

Mr. Justice Parker.—I cannot restrain the keeping of bees at this time of year. The trial of the action can be expedited. The costs will be costs in this action.—*The Times*, September 12.

Bee Shows to Come.

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee Produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for Honey, &c. Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover Square, London, W. **Entries closed.**

October 17 to 26, at Waverley Market, Edinburgh.—Honey show in connection with the Eleventh Annual Edinburgh and Midlothian Industrial Exhibition. All open classes. Beautifully illustrated prospectus, price 2d., from A. Hutchinson, 15, Leith Street, Edinburgh. **Entries close October 3.**

October 24 and 25, at Kilmarnock, N.B.—Honey Show in connection with the annual exhibition of the Ayrshire Agricultural Society. Schedules on application to John Howie, Secretary, 58, Alloway Street, Ayr. **Entries close October 11.** (See advt. p. v.)

Notices to Correspondents.

*** We regret that owing to a printer's error (or to lack of care in writing plainly) our correspondent Mr. J. Litman has found it necessary to send the following complaint of trouble he has been put to in connection with an advertisement in our issue of the 12th inst. We need hardly say that, wherever the fault lies, we are sorry, and gladly publish the following letter from Mr. Litman :—

"DEAR SIRS,—I want you to please insert in next issue of B.B.J. a correction in respect of my advertisement in last issue. I was wrongly quoted in the price for bees in skeps, which was printed 2s. 6d. each, whereas on my advertisement copy I put 7s. 6d. In consequence of this mistake I have been fairly inundated with wires, P.O.s, letters, and postcards from all parts of the British Isles. If the correction is not printed people might think I am trying to perpetrate a fraud. It has caused me a lot of unnecessary trouble and annoyance, besides needless expense. I know, of course, such mistakes will happen at times, and blame no one, as we all make mistakes. Only I would ask you to just correct mistake by a small notice, and oblige yours truly, R. LITMAN, South Street, Castle Cary, September 16."

R. N. ROBERTSON (Tayport, N.B.).—*"One & All" Garden Books.*—These books may be had from the Agricultural and Horticultural Association, Long Acre, London. The whole series so far issued twelve books) are well illustrated, written by well-known gardeners, and published at the nominal price of one penny each.

A. F. DAY (Coventry).—*Bee Nomenclature.*—The queen-bee sent was so completely smashed and flattened in post as to be unrecognisable, or enable us to venture an opinion as to cause of death.

J. E. B. (Surrey).—*Sugar for Bee-food.*—The sample is no doubt pure cane sugar, but although quite suitable for spring feeding, we prefer refined white crystals to yellow Demerara moist sugar in making syrup for winter stores.

PERCY LEWIS (Derby).—*Suspected Robbing.* The bee sent was so crushed and flattened in post as to be past recognition, but we think it is simply an ordinary brown or native worker-bee.

Suspected Combs.

D. D. P. (Hants.).—Comb is affected with foul brood, but only in the incipient stage. As the stock is strong in bees, and headed by a young queen, it is a case for treatment as detailed in the "Guide Book" (new edition), pp. 179 and 180.

J. W. L. (Dalbeattie).—The dead larvæ in the several pieces of comb sent have all the characteristics of black brood.

Honey Samples.

R. T. WHITEMAN (Ealing). Sample No. 1 is almost wholly lime honey, the colour, flavour, and aroma being very pronounced as being from that source. No. 2 (last season's honey) has a good portion of honey-dew in it; fermentation has started, but though unsuitable for table use, it may be utilised for bee-food if, after thinning down a little with hot water, it is boiled for a minute or two and the scum removed before using.

J. B. (Leicester).—If we were equally well informed with yourself with regard to the place your sample came from, it might help us in defining "the flavour and smell you do not like." All we can say is, the honey sent, though fairly good in colour and consistency, is of poor quality and has an unpleasant flavour.

WM. WRIGHT (Hull).—Sample is from mixed sources, dark in colour, and by no means good in flavour. If a ready sale can be found for it at from 9d. to 1s. per lb. we congratulate you on the possession of Italian bees that gather the dark stuff while your English bees "are bring-

ing in honey much lighter in colour and of different quality." As the saying goes, "There's no accounting for taste."

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

TWO "WELLS" HIVES (Howard's), very successful treatment, 8s. each; one wanting Super, 6s. Deposit.—VICAR, Bishopswood, Stafford. c 49

HEALTHY DRIVEN BEES, 1s. 2d.; boxes, 6d.; Grand Young Heather Queens, in cage, 2s. 6d. Heather Honey.—THOS. HOOD, Pickering. c 47

FOR SALE, near Haslemere, Surrey, 20 stocks Bees, in Bar-framed Hives, with supers complete, 25s. each; 18 Stocks in Skeps, 9s. each; must clear, owing to removal.—SADLER, 12, Woodside-parade, Wimbledon. c 65

TWO BEE HOUSES, detachable, £5; 12 Colonies, 10s. to 16s.; 3 Empty Hives, 4s. to 6s.; 5 Section Crates, complete, 3s.; 9 doz. Section Cases, glazed on one side, 7s. lot; 18 new Brood and 12 Shallow Crates, 1s. each; 40 Shallow Frames, half waxed, 2d.; 2 gross Tie-over Jars, 1 lb., 6s. gross; 1 Hand Extractor, 14s.; 10 Queen Excluders, 6d.; 10 Super-clearers, 9d.; 3 Smokers, 1s.; 12 "Shepherd" Dividers, 1s.; 2 gross "W. B. C." Ends, 1s. 9d.; about 3 lb. of Foundation.—STANDRING, 56, Central-drive, Blackpool. c 48

SELL, 5 strong Stocks, in Skeps, 40s.; also 3 ditto, in good Frame Hives, 45s.—AVERY, Deverill, Warminster. c 51

WANTED, a "Ryther" Honey Press; must be in good condition.—GIBSON, Chemist, West Hartlepool. c 63

FIVE STOCKS OF BEES (1 British Golden and 1 Italian), in sound "W. B. C." Hives; good Stores.—Offers to purchase to be made to W. J. SPRINGETT, Harlington, Middlesex. c 64

HEALTHY DRIVEN BEES, with Queen, 5s. lot; Fertile Queen Bee, 2s., per post 2s. 2d.; packages free.—ROLLINS, Stourbridge. c 60

BEESWAX WANTED for Cash; state quantity and price; must be clean.—T. D. SINFIELD, 26, Upper George-street, Luton. c 55

STRONG HEALTHY STOCK Italian Bees, headed by young imported Queen, in Meadows' 21s. "W. B. C." Hive, splendid condition, price 35s.; also Stock of pure Carniolans, in "W. B. C." Hive, 35s. — PIDDUCK, Cheshire Association Expert, Sunnyside Apiary, Alsager. c 53

PRESSED HEATHER HONEY, 9½d. per lb., in 28-lb. tins; pure bred White Leghorn cocks, 3s., March birds. — W. A. WOODS, Normandy, Guildford. c 54

BEES, 14 Strong, Healthy Stocks, in Bar-frame Hives, free from all disease, brood-chambers full of honey; 3 empty Hives, all Appliances; bargain, £9 10s., carriage paid.—F. BRANFORD, Ironbridge, Salop. c 67

FOR SALE, Three Healthy Stocks of Bees, in Bar-frame Hive, all young stocks; price 25s. each.—L. WAKEFIELD, Blackmore Lodge, Bromsgrove. c 66

DRIVEN BEES, guaranteed Healthy, Strong Stocks, fertile Queen, 1s. lb., 3-lb. or 4-lb. lots. ELKINS, Willow Grove, Salisbury. c 68

Special Prepaid Advertisements.—*Continued.*

WHAT OFFERS IN CASH OR STOCK OF BEES for 47 6d. numbers "With the Flag to Pretoria," clean for binding? — TAYLOR, Jericho, Lindley, Huddersfield. c 50

SITUATION WANTED BY HANDY MAN to assist Gardener; understand Bees, Making Appliances, &c.—GARDENER, Stables, Oakhurst, Midhurst. c 56

HEALTHY DRIVEN BEES, 3s. 6d. on rail; 1907 Fertile Queens, 2s., by post, with introducing cage.—J. THOMAS SOLE, 133, Sturton-street, Cambridge. c 57

FOR SALE, 8 STOCKS, in Standard Frame Hives, all inch wood, 2 holding 23 Frames; "Observatory" Hive, 10 Frames, glass sides and end, £10 the lot, guaranteed healthy; Hives alone worth the money. — S. MARTIN, Holly Cottage, Gobowen. c 58

CROCUSES, Yellow, bulbs per 100, 1s. 3d., carriage free; Arabis slips, same.—BRAYSHAW, Aultmore, Keith. c 62

A FEW HEALTHY DRIVEN BEES FOR SALE, good lots, 4s.—W. H. HIGLEY, Expert, 15, Mason-street, Kidderminster. c 61

TWO STRONG STOCKS, in Bar Frame Hives, 15s. each; 3 Strong Skeps of Bees, 6s. each; lot carriage paid; guaranteed healthy, cash or deposit.—WARREN, JUN., Great Horwood, Winslow, Bucks. c 59

FOR SALE, 3 good Hives of Bees, 1 "Observatory" Hive, all in good condition. Seen by appointment.—West Lodge, Putney Common, S.W. c 46

WANTED, BRITISH BEESWAX, good quality. —GRIFFITH, Alvanley, Warrington. c 52

GRAND LOT OF DRIVEN BEES, Healthy, free from foul brood, 4s. per lot; no less than 4-lb. lots sent out; boxes 6d., or returnable; Red Heather Queens, '07, 2s. 6d. each.—HARRISON, Bee Farm, Middleton, Pickering, Yorks. c 43

OVERSTOCKED.—Full 1-lb. tall tie-over Honey Jars, exact size ("Triangle" brand), 10d. per dozen, packed, on rail.—W. WOODLEY, Beedon, Newbury.

SURPLUS HIVES FOR SALE, used one and two seasons only, have never contained diseased Bees, cheap. — Particulars on application, SIMS, Stratford-road, Hall Green, Birmingham. c 18

FINEST QUALITY LIGHT-COLOURED EXTRACTED ENGLISH HONEY (1906 and 1907 crops), in 28-lb. tins, 8d. lb., f.o.r.; 5 cwt. and upwards, 70s. cwt., f.o.r. — C. DUNN-GARDNER, Fordham Abbey, near Soham, Cambs c 21

MESSRS. STONE AND SONS, Chemists, Exeter, are buyers of English Beeswax, in large or small quantities.—Write, stating quantity and price required. b 85

HEALTHY DRIVEN BEES, with fertile Queen, 5s. per lot; strong 3-Frame Nucleus, 1907 Queen, 8s. 6d. Exchange Honey in Bulk. Strong Healthy Stocks, in Straw Skeps, heavy with Heather Stores, 12s. 6d., 13s. 6d.; Fertile Queens, 2s., guaranteed.—W. WOODS, Normandy, Guildford. b 69

40 YEARS' EXPERIENCE AMONG THE BEES. Healthy Driven lots, 3s. 6d., good lots.—DENNETT, Whitchurch, Hants. b 62

HEALTHY DRIVEN BEES, with good Queen, 5s., package returnable; extra Queens, 2s. 6d. each.—JOHN P. PHILLIPS, Spetchley, Worcester. c 33

CHAPMAN HONEY PLANTS.—Extra Strong Plants, to blossom 1908, 12 3s., 6 1s. 9d., package free; Seed, 6d. and 1s.—JOHN P. PHILLIPS, Spetchley, Worcester. c 34

Editorial, Notices, &c.

ORGANISATION OF LABOUR AMONG BEES.

We read in *L'Apiculteur* of the observations carried on by M. Gaston Bonnier, professor at the Sorbonne, on this subject. This work is of special importance because it is well known that M. Bonnier only brings before the Academy of Sciences facts that have been verified. The article says that M. Gaston Bonnier is a marvellously patient observer, and spent his holiday in the country watching the flight of bees. This is what he saw. First he tells us that a worker leaving the hive may be a scout or a collector, and in every instance the difference between the two may be known by the noise made in flight and her manner of flying. A collector works mechanically: if she gathers nectar she does not collect pollen or water, and *vice versâ*. She goes at once to the same spot to do the same work allotted to her. A scout, on the contrary, flies right and left on all objects that she encounters, undecided where to commence work. When one of these scouts has found a suitable source of forage, she organises a coming and going of collectors and becomes one herself, working as methodically as the rest. M. Bonnier was not satisfied to leave his investigations at this point, but pursued them further to see to what extent this division of labour amongst bees was carried. Profiting by the brief space of time that the bees remain on a flower, he had the patience to mark those he wished to observe by means of a camel's-hair pencil and powdered talc coloured with different pigments. He was thus able to make most curious observations. Having placed a certain number of melliferous flowers of the same species into a fresh place, he noticed the first scout come to reconnoitre; then a certain number of collectors, recognised by the marks on their bodies, came to gather the nectar. M. Bonnier then doubled the number of flowers, and forthwith the number of bees was doubled. "If bees are not able to count," says the learned professor, "one can at any rate come to the conclusion that they can tell the number of workers that are necessary to accomplish a certain amount of work." An understanding of this sort can be organised for a collective harvest, not only among the bees in the same hive, but also with those in the whole apiary or even in the district. Another experiment shows the extraordinary faculties these wonderful creatures possess in all that concerns the division of labour. M. Bonnier placed side by side two basins, one containing water and the other sugar. The first day the bees came after the water, but as the gang was no doubt sent out for the purpose of carrying water, not one of the bees composing it touched the sugar. The next day, the presence of sugar being announced, an entirely different gang from the first was started to collect it. M. Bonnier has undertaken to continue his observations, but what he has already seen shows that in the bees' republic there is a thorough understanding respecting the conditions of labour and a discipline that may serve as an example to certain human democracies.

SURREY B.K.A.

ANNUAL SHOW.

Notwithstanding the drawbacks incidental to a bad season for bee-keeping, the annual exhibition of the Surrey Bee-keepers' Association, which was held on September 5, 6, and 7, was in every respect successful. It was fitting that one of the largest shows of bees and bee-produce held in the country this year should find a home at the Crystal Palace, and the fact that the opening day fell upon "fire-work day"—Brock's benefit—assured a continuous attendance. The merits of the exhibits in the twenty-five classes were considerable, but it does not in the least detract from their value to point out that the educational exhibit put up by the hon. secretary of the Association, Mr. F. B. White, Redhill, attracted considerable attention, Messrs. H. Jonas and F. Brett, the judges, considering it the largest and most complete educational exhibit they had seen. Pressed specimens of honey-producing flowers and numerous bee-products were shown, and the uses to which honey can be applied clearly demonstrated. A few minutes' study of the display gave a full insight into the value of the bee and the products of its industry. The annual show is also of much value in that it enables members to dispose of their produce and brings the uses of honey before the public. In several of the classes competition was very keen.

The following awards were made:—

MEMBERS' CLASSES.

Twelve 1-*lb. Sections.*—1st, T. W. Staplee Firth, Tulse Hill; 2nd, Mrs. E. E. Bissett, Wallington; 3rd, A. Denny, Kingston.

Six 1-*lb. Sections.*—1st, T. W. Staplee Firth; 2nd, A. T. Hedger, Esher; 3rd, A. Denny; v.h.c., W. Welch, Cranleigh; h.c., Miss Wickham Jones, South Norwood; W. E. Hamlin, Surbiton.

Six 1-*lb. Sections Heather Honey.*—1st, E. P. Betts, Camberley; 2nd, A. Seth-Smith, Cobham; 3rd, G. C. Bullen, Cobham.

Three Shallow-frames for Extracting Honey.—1st, E. P. Betts; 2nd, A. Watkin, New Malden; 3rd, H. Tobutt.

One Shallow-frame Comb Honey.—1st, W. E. Hamblin; 2nd, F. Poupart, Morden; 3rd and v.h.c., A. Watkin.

One Standard Frame Comb Honey.—1st, C. H. Moulton, Lingfield; 2nd, C. Monk, Kingswood; 3rd, Dr. C. F. Wakefield, Charlwood.

Twelve 1-lb. Jars (Light) Extracted Honey.—1st, Mrs. A. M. Johnston, Wallington; 2nd, T. Chater, Wallington; 3rd, A. P. Short, Thornton Heath; v.h.c., T. W. Ringer, Talsfield; h.c., A. H. Greenslade, Sutton.

Six 1-lb. Jars (Light) Extracted Honey.—1st, W. Holmes, Windlesham; 2nd, Thos. Chater; 3rd, S. Silvester, Worcester Park; v.h.c., A. P. Short; h.c., T. W. Ringer.

Six 1-lb. Jars Heather Honey.—1st, G. C. Bullen; 2nd, E. P. Betts; 3rd, M. J. Lambell, Chiddingfold; h.c., Mrs. Bissett.

Six 1-lb. Jars Extracted Honey.—1st, J. Birch, Windlesham; 2nd, G. B. Bissett; 3rd, G. C. Bullen; h.c., W. Monk.

Six 1-lb. Jars (Dark) Extracted Honey.—1st, A. Silvester; 2nd and 3rd, W. J. Goldsworthy, East Dulwich; v.h.c., T. W. Ringer; h.c., F. Poupart.

Six 1-lb. Jars Granulated Honey.—1st, A. E. C. Mumford, Redhill; 2nd, Dr. C. F. Wakefield; 3rd, H. Tobutt; v.h.c., A. P. Short.

Display of Bee-products.—1st, E. Bontoft, Caterham Valley; 2nd, A. E. C. Mumford.

Beeswax.—1st, A. P. Short; 2nd, C. H. Moulton; 3rd, F. J. Bernau, Reigate; v.h.c, F. B. White, Redhill; h.c., T. Chater.

Articles of Food containing Honey.—1st, F. B. White; 2nd, F. J. Bernau; 3rd, A. E. C. Mumford.

Six 1-lb. Jars Extracted Honey (novices only).—1st, W. Holmes; 2nd, Miss G. Shaw, Englefield Green; 3rd, F. Ilott, Englefield Green; v.h.c., E. O. Shelton; h.c., C. Dodd, Morden.

OPEN CLASSES.

Six 1-lb. Sections.—1st, E. Robb, Wisbech; 2nd, T. G. Hillier, Andover; 3rd, C. Lodge, Chelmsford; v.h.c., G. W. Bullamore; h.c., E. Dean, A. C. Tew.

Six 1-lb. Jars (Light) Extracted Honey.—1st, John Berry; 2nd, T. G. Hillier; 3rd, H. W. Saunders; v.h.c., R. Morgan.

Three Shallow-frames Comb Honey.—1st, E. Bontoft; 2nd, Rev. C. H. Buxton, Thornton Heath; 3rd, Miss Flowers, Upper Beeding.

One Shallow-frame Comb Honey.—1st, E. Bontoft; 2nd, C. Lodge; 3rd, Miss A. Flowers.

Beeswax.—1st, T. W. Ringer; 2nd, H. W. Saunders; 3rd, A. S. Hoare, Saltash; h.c., C. Lodge.

Observatory-hive, with Bees and Queen.—1st, A. E. C. Mumford; 2nd, Mrs. Seadon, Bromley; 3rd, C. Greenhill, Wimbledon.

Collection of Hives and Appliances.—1st, Jas. Lee and Son, Highbury; 2nd, Mrs. Seadon; 3rd, C. T. Overton and Sons, Crawley.

Complete Frame-hive, price not to exceed 15s.—1st, C. Greenhill; 2nd, Jas. Lee and Son; 3rd, C. T. Overton and Sons.

Outfit for Beginner in Bee-keeping.—1st, Jas. Lee and Son; 2nd, C. T. Overton and Sons; 3rd, Mrs. Seadon.

Among the exhibits not for competition, the Hon. Secretary showed a fine display of bee-products.

Demonstrations were given in the bee-tent by Mr. C. T. Overton on each day of the show.

REVIEWS OF FOREIGN BEE-JOURNALS.

By "Nemo."

Bees Transporting Eggs.—Herr E. Neumann says he has been able to confirm the much-debated point about bees being able to transport eggs. In an article in *Deutsche Illustrierte Bienenzeitung*, he says that he had a double hive, the two colonies being separated by a division board, which was provided with an opening covered with excluder zinc and a slide, so that it could be used when uniting the colonies. One day he found that one of these colonies had become queenless, so he opened the slide on the excluder in order to unite the two hives, and watched how the brood developed from day to day, and the brood-combs gradually got emptied until at last he did not find a single uncapped larva. As the numbers of bees on this side did not seem to diminish, he determined, five weeks later, to make two colonies of them by giving the queenless part another queen. As he separated the frames to close the opening through the division-board, to his great astonishment close to the excluder was a fine, newly made, completed, and capped queen-cell, from which in a few days emerged a fine large queen. As there was a space of 10 centimetres ($\frac{15}{16}$ths of an inch) between the combs in the two compartments, and as five weeks had elapsed since the last egg had been laid in the queenless hive, and as it is hardly possible that an egg had remained unhatched for five weeks, there is but one conclusion to come to, and that is that the bees had carried an egg from the neighbouring brood nest in order to raise a queen of their own again.

Bee-keeping in California. — M. A. Titoff, who is staying in California, sends to *Ptcshelovodnaia Shisn* a report of the season in that country. The harvest of honey, he says, has not come up to their expectations. The sage was in full bloom on July 6, and so were a number of other nectar-producing plants, but for some weeks the weather was cold and cloudy, accompanied by dense fogs; consequently the bees did no work until more than half the prospects of a good harvest were gone. For the production of section-honey there was very little chance. The spring was very unfavourable for bee-keeping in America, and prices of honey were rising.

Tartaric Acid in Syrup as a Preventive of Foul Brood.—We read in the *Schweitzerische Bienenzeitung* that Dr. Brünnich is a strong advocate of using tartaric acid in making syrup for bee-food in preference to vinegar, and is well contented with the result. He says, after adding tartaric acid to the syrup care should be taken to boil the solution for several minutes. Dr. Brünnich's recipe for preparing the syrup is as follows:—The tartaric acid is dissolved in an equal weight of water, and a table-spoonful of this solution is added to 5 litres (1$\frac{1}{10}$ gallons) of syrup, which is then boiled for several minutes. Tartaric acid inverts the cane-sugar into fruit-sugar. Not only so, but it is a powerful antiseptic and a preventive of foul brood. It also prevents crystallisation of the sugar, and as a consequence thirst and dysentery, which are the immediate result of this crystallisation.

Flower-honey and Honey-dew.—In the *Bulletin de la Société d'Apiculture de la Somme* M. Reidenbach gives a simple method of determining whether honey being gathered is derived from flowers or is only honey-dew. It is not difficult to distinguish, as the latter is of thicker consistency, viscous, and of a dark colour, with a greenish shade, and is hard to extract. M. Reidenbach puts a spoonful of slaked lime into a litre (1$\frac{3}{4}$ pints) of rain-water, stirs it thoroughly, allows the lime to settle at the bottom, and then pours off the clear liquid into a clean bottle for future use. If it is desired to test the honey, a tea-spoonful is put into some of this lime-water and shaken. If the solution remains perfectly clear, the honey has been derived from flowers; if, on the other hand, it becomes cloudy, and flocculent matter is seen in it, the source is honey-dew. The amount of cloudiness varies with the quantity of honey-dew mixed with flower-honey.

The Value of Lime Trees.—The *Leipziger Bienenzeitung* says that, after being placed in the front rank as a reliable source of bee-forage, the lime is losing this reputation. It has frequently been observed that the weather was fine while it blossomed, nights warm, wind favourable, thousands of bees buzzing in these trees, but the hives on scales registered only a small increase in weight. Districts are mentioned where, notwithstanding the large number of lime trees and favourable weather, the bees did nothing. The question is frequently asked, What is the cause of this? Some think that the lack of nectar is due to the nature of the soil. It is possible that trees planted in a clayey soil produce more or less than those growing in a sandy or calcareous one. Others affirm that when the lime has passed a certain age it no longer secretes nectar, and if the bees swarm on such trees it is really for the very aromatic pollen, which has a powerful attraction for them.

Final Issue of the "Europäische Bienenzucht."—We learn with regret that Pastor A. Sträuli has found it necessary, with No. 8 of the second year of issue, to discontinue publication. The *Europäische Bienenzucht* was intended to promote American methods of bee-keeping in Europe, but these have evidently not met with much favour, seeing that Pastor Sträuli's expenses in bringing out the paper for half a year exceeded his receipts from subscriptions. He begs those who have paid their subscriptions for the year to spare him the cost of bringing out the four remaining numbers, which would entail a further los to him of over 1,000 francs. The journal has been a great burden to him, and he is thankful to give it up. He has our sincere sympathy, as it was a really good paper, although too great a share of its contents was devoted to American methods, which are not always suited to European climate. Bee-keeping is much more difficult in Europe than in America, and requires different treatment and greater skill in obtaining good results.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

ISLE OF WIGHT BEE-DISEASE.

THE PROPOSED RELIEF FUND.

[6845.] My suggestion that a fund should be opened to assist the bee-keepers in the Isle of Wight appears to be an unfortunate bone of contention. I think that this is a mistake. The suggestion was made in all good faith, and I be-

lieve that there is much to be said in favour of such a method of assisting our I.O.W. brethren. There must be those who, like myself, are quite unable to send bees to the island, but who would be glad of an opportunity to assist in the good work. If the bee-keepers are willing to receive help in any form, there must be some expense of administration. Even if this is only that of postage, there seems to be no reason why such a willing worker as Mr. H. M. Cooper, who has already given so much of his time and whose own losses are heavy, should be further mulcted. I certainly think, with Mr. Bellairs, that there would be difficulties, and indeed this is a unique opportunity to deal with special difficulties which are of vital interest to bee-keeping, and the expenses of these should be met by the craft, and not by those honorary workers willing to deal with them. The suggestion by the Editors of this journal, that the responsible body to deal with the administration of funds should be the local association, would seem the most natural course. It is possible that this sensible suggestion has not been at once accepted owing to the conservative attitude of the journal before official details of the epidemic were fully available.

If I may say so without intrusion, the Editors are not unwise in their scientific willingness to go slowly when a supposedly new thing is proclaimed. However this may be, would it not be well to accept their present offer in the spirit in which it is tendered? The association is the body to which we friendly outsiders naturally look officially. It is in their power to appoint their own local representatives and to deal with the matter as seemeth to them best. If I might further suggest without offence, an empowered sub-committee of three might be a most efficient, active body. I am, however, not at all convinced, nor do I suggest, that the immediate obtainment of bees is the next desirable step. A complete census of the bee-keepers must be obtained, and some definite mutual understanding.

Then the island must be definitely purged of the disease. Rather than send further bees they should, in my opinion, be cleared out if necessary, and all infected matter be purged or destroyed. There never was a better chance to test the question of dispersal of disease by concerted action. The difficulty of equitable treatment might be disposed of by basing the compensation proportionately upon losses. But the good of the community should be paramount, and for this it might be necessary to make bargains with individual bee-keepers, though this is unlikely, and such matters should be entirely at the discretion of the suggested committee, and the association confirmation should be final. It would not be fair to saddle any one individual with this responsibility. Every affected bee-keeper, whether on the committee or desirous of discontinuing the pursuit, should come under the scheme for disinfection and compensation for this to be effective. Such work as that which I have vaguely outlined may be of almost as much importance to the bee-keepers of the mainland as it is to those at present affected, and it cannot be carried out, however willing the workers, without expense.

It is in the hope that it might assist the work, and perhaps enable some hard-hit brother to start afresh, that I tender my modest guinea, being perfectly content that any such donation should be at the discretion of those responsible for use either in getting rid of the disease, in purchase of stocks, or for purely administrative expenses connected with the work.—L. S. Crawshaw, Ilkley.

BEES' STINGS AND RHEUMATISM.

[6846.] It appears to be a familiar and widespread belief in many countries that the stings of bees act both protectively and as a cure for "rheumatism." And I have recently been able to collect some definite evidence in support of the belief in question. This is of interest and importance not only on general grounds, but also on account of the connection which I believe to exist between rheumatic fever and an abnormal production of formic acid (the acid of bee-poison) in the human body.

May I therefore be permitted to request any of your readers who have information on the subject, and are willing to assist the present inquiry, to favour me with answers to the following questions:—

1. Are you acquainted with the belief that bees' stings cure and prevent rheumatism?

2. Do you know of any case in which rheumatism is believed to have been cured by this means?

3. Do you know of any person who suffers from rheumatism, although frequently exposed to the stings of bees?—E. W. Ainley Walker, M.D., University College, Oxford, September 27.

[Since the first publication, some seventeen or eighteen years ago, of the theory advanced by an Austrian physician, Dr. Terc, of Marburg, in *Wiener Medicinische Presse*, that persons who have been stung by bees enjoy an immunity from the effects of bee-stings for varying periods, and that, moreover, the virus of the bee-sting is an infallible remedy for acute rheumatism, it has had ample confirmation in a number of cases recorded in the B.B.J.

(*Continued on page* 396.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

The account of Mr. Robb's determined fight with the bee-man's enemy, foul brood, will be read with interest by all, and it says much for his enthusiasm and perseverance when we find that after so long a struggle he is now on the high road to success, having stamped out the disease effectually and got together a large and flourishing apiary. In the "notes" written at our request Mr. Robb says:—

"I first became interested in bees in the year 1895 by purchasing a book on the subject entitled 'British Bee-farming.' Though many of the chapters in it were very misleading and the book was very badly written, it served one purpose—that of arousing in me an unflagging interest in the honey-bee. Soon after purchasing the book I invested in a swarm, and hived it in a frame-hive of my own construction, made as well as I could from instructions given in the afore-mentioned volume. Unfortunately all went wrong, and my bees did not even survive till the autumn. During the winter I came across some odd volumes of the BEE JOURNAL, commenced taking it, and have not missed a week since. I purchased a 'Guide Book' about the same time, and, owing to the very explicit instructions given therein, I found no difficulty in performing the operations necessary in ordinary bee-keeping. In the spring of 1896 I purchased two strong stocks in skeps ready to swarm, and lost no time in placing both on the top of frames of two prepared hives so that they could transfer themselves. This they did successfully, and I was rewarded by securing several stones of surplus honey the same season. After this my enthusiasm rose to fever pitch, and I built up a dozen splendid stocks from driven bees, the hives being made by myself. They answered very well, and in this way I increased my apiary to eighteen hives in 1898, when the only real trouble I have had with my bees came. As I was packing down for the winter I noticed something amiss, and an examination of the combs convinced me that all was not right. I forwarded a sample of comb to your office, and the telegraphic reply received before noon the next day confirmed my suspicion that foul brood had broken out in my hives. I burnt frames, combs, &c., and hoped to see no more of it; but during next summer it went through my little apiary like wildfire, in spite of every effort made to check it, and it has since spread all over the district, with the result that very few bees are now kept about here. I destroyed my bees, burnt frames, charred the hives, boiled or charred all appliances, and started again with swarms, using every possible precaution, only to have the trouble over again.

"Determined not to be beaten, I again

MR. EDWARD ROBB'S APIARY, OUTWELL, WISBECH.

tried to stamp it out, but owing to the number of diseased hives in the district which were constantly being robbed out by other bees, the disease occurred again and again, and bee-keeping did me little or no good for years. In 1902 I determined to make another final effort to banish disease. I did not stop at destroying bees and frames, &c., but broke up and burnt hives as well. I then made arrangements for a number of new hives constructed on the combination principle to accommodate sixteen standard frames, though I never use more than fifteen frames; this leaves room to move the dummy back, and allows for easy manipulation—a most important point when dealing with foul-broody stocks. These hives are fitted with telescopic lifts, fixed floors, and are suitable for any method of working. Their construction can be seen from illustration, which shows a part of my apiary. I have thirty stocks altogether, and by paying attention to them I can work my bees at considerable profit. This is a good district for honey, our chief source being wild mustard. I am always able to get very good sections, and generally win a few prizes at bee and honey shows."

("*Bees' Stings and Rheumatism*," *continued from page* 394.)

and other bee-papers. Dr. Tere in the above medical journal stated that he had applied in 173 cases 39,000 stings, with the best results. He found that more stings are required in chronic cases than in acute, but that in either case permanent cures could be effected. The first two questions we can answer in the affirmative. As to the third we should be glad to hear from some of our readers.—EDS.]

WORKMEN'S COMPENSATION ACT AND BEE-ASSOCIATIONS.

[6847.] I have to-day been asked a question of very considerable interest to all bee-keepers' associations. It is, Are the associations liable under the new Workmen's Compensation Act for accidents or injuries to their experts when on tour or lecturing? It will be a very serious item if we are liable, and a serious tax if we have to insure them. Our association generally employs twelve to sixteen experts in different portions of our county; they travel mostly by cycle or train, and sometimes drive. Can you enlighten us as to how we stand in the matter? I am sure your reply will be looked forward to and greatly esteemed by all associations, as all will come under the same liability. Thanking you in anticipation—F. J. CRIBB, V.-P. Lincs. B.K.A.

[As our esteemed correspondent says, the question raised is of considerable interest to all bee-keepers' associations. From the voluminous correspondence on this subject in the daily papers, we cannot but conclude that if an expert meets with an accident while acting within the scope of his duties his employers are undoubtedly liable under the new Workmen's Compensation Act. The Departmental Committee appointed to consider the question of insurance, in its report recently issued, points out that the rates of premium for insurance are so low as to be within the reach of all.—EDS.]

BEES FOR THE ISLE OF WIGHT.

[6848.] In furtherance of the excellent proposal of Mr. Crawshaw and others in B.B.J. that the more fortunate bee-keepers of the mainland might render some practical expression of sympathy with the sufferers of the bee-epidemic in the Isle of Wight, and in the event of other arrangements failing, in the issue of Sept. 5 I volunteered to organise this proposal, on the ground that my recent visit of inquiry into the epidemic had put me in touch with the sufferers and the actual position of affairs.

It is encouraging to find that my offer and suggestions have met with the approval of "Hants Bee" (page 383) and Mr. E. H. Bellairs, hon. secretary of the Hants and Isle of Wight B.K.A. (page 384), and I have received a letter from Mr. H. M. Cooper, of Thorley, the local secretary for the island, thanking me for the suggestion, and stating they have every confidence in leaving the arrangements in my hands. Mr. Cooper mentions that the majority of the island bee-keepers have become so dispirited in their attempts to combat the epidemic that it is doubtful if they will restart bee-keeping unless some encouragement is given them.

From my own knowledge during my visit I found that the island bee-keepers had somehow got the idea that we on the mainland looked with callous indifference on an epidemic which might possibly one day affect ourselves. Surely it is incumbent upon us to remove this impression; and, if I may be allowed to point out, it is to our own interest to assist them in solving the problem of this disease.

My proposal is that I should arrange, in conjunction with Mr. H. M. Cooper, the local secretary of the island, a present of bees and frames to the sufferers.

No suggestion or idea of charity is to enter into the arrangements. The present is to be one of goodwill and sympathy from the mainlaid bee-keepers, and the distribution should be, as far as possible, with the idea of encouraging them to restart bee-keeping, and in proportion to their losses.

Unfortunately, the delay has interfered

with taking full advantage of the driven-bees season, but up to October 15 driven bees in not less than 6-lb. lots, with frames of foundation, or, preferably, drawn-out combs, could be sent to the more skilled bee-keepers; and after October 15 skeps with young queens, for transference in the spring, or stocks on frames. There are plenty of empty hives in the island. What is required are bees and frames of comb or foundation, and, being a present, they should be sent carriage paid.

When the distribution is completed, the Editors of the B.B.J. might appoint someone to examine the list of acknowledgments and donors, and publish the list of donors and gifts in the B.B.J.

The present season is fast closing; therefore, permit me to invite the readers of the B.B.J., without delay, to send me their offers, stating the nature of same, and I will put them in touch with a suitable bee-keeping sufferer in the island to whom to send their gifts of bees or frames direct. If the gift is a money one, it should be sent to me, and suitable purchases will be made and forwarded.

May I express the hope that this will meet with a prompt and generous response, in order that the arrangements may be carried out before the present season closes at end of October?—JOHN SILVER, Croydon Grove, Croydon.

THE END OF THE SEASON.

[6849.] Day sets on the purple hills, and the sun, declining westward, casts a halo of beauty over all around. The stillness on the hillside is complete, except for the occasional cry of grouse, disturbed from their lair among the fragrant heather above us; which is faintly answered by the chivy of a covey of partridges, driven from their favourite cornfield by the harvesters away down in the valley below.

Before us, under a sheltering bank of thick gorse, stands a row of hives, brought hither some weeks ago for their annual sojourn among the ling. As we regard them attentively signs are not wanting that the season of toil, the ingathering of their harvest, is over, and soon they will enter on their period of rest. Their doorways, lately thronged with a restless, eager crowd, now half-darkened by the shadow of a solitary Scotch fir, which stands between them and the setting sun, are deserted, except for now and then the return of some belated toiler, loath to leave the last blooms of heather. As these stragglers drop heavily on the alighting-board and slowly enter, we think sadly how few may be their future journeys and how lone their end among the fading heather. Even now their wings will hardly bear their toil-worn bodies homeward, and as we listen to the rasping sound as each returning bee joyously heralds her entrance, we know that those frayed wings will soon carry the little labourer out never to return. Quickly and quietly closing the entrances as darkness descends, we then load our hives on a wagon in waiting, to convey them to their snug winter quarters low down in the valley many miles away. As each one is gently lifted we note the little heaps of slain drones below the entrances, which to the untutored eye indicates nothing more than massacre in cold blood of hundreds of inoffensive citizens. But the bee-man sees in this a sign of a vigorous and prosperous colony headed by a prolific queen able to perpetuate the race. Securing all safely, we begin the journey home. The descent is steep and painfully slow, and the jolting wagon rouses its living freight to loud and angry protest, until we gain the level road beneath. In the gathering twilight we now wend our way along country lanes, until the moon peeps over the distant hilltops, flooding the valley with a silver light and casting long shadows behind the high-laden wagons bearing home the golden corn by the light of the harvest moon. The now subdued hum of the imprisoned bees, accompanied by the rhythm of our horse's feet, the distant rumbling of the harvest wagons, and the hoot of a solitary owl, almost lull us to sleep, until we halt at the old orchard gate at home, where willing hands are ready to unload and welcome home the bees. Speculations are made as to the weight of honey we have brought back. The presence of the golden harvest is soon revealed by the delicious aroma of heather-honey wafted on the still night air by released bees fanning at the now open entrances. Thankful we are that the last few weeks of the season have given our bees the ample stores needful for their long wait till next summer's flowers bloom and call them again into activity. Like the bees, we live in hope, and I may say in faith, that the promise which is rung in our ears at this season, "While the Earth remaineth, seedtime and harvest shall not cease," will always be fulfilled. The beautiful ending to our miserable summer must be like that of which the poet Keats writes:—

Season of mists, and mellow fruitfulness,
Close bosom friend of the maturing sun;
Conspiring with him how to load and bless
With fruit the vines that round the thatch-eaves run;
To bend with apples the mossed cottage trees,
And fill all fruit with ripeness to the core;
To swell the gourd, and plump the hazel shells
With a sweet kernel; to set budding more,
And still more, later flowers for the bees,
Until they think warm days will never cease,
For summer has o'er-brimmed their clammy cells.

—G. W. AVERY, Armathwaite, S.O.

FRESH AIR AND FOUL BROOD.

[6850.] Referring to Mr. Farmer's letter (page 366), I wish to state in support of his contention that I have long held the opinion that bee-diseases (and I speak particularly of foul brood) are dependent for their propagation and degree of virulence upon certain conditions outside of the mere presence and existence of the disease germs. I am led to think that in certain localities the disease may be endemic, or perchance simply latent, and that under suitable circumstances the germ may, and does, find congenial ground and scope for its harmful propagation and development. I am also sure, as Mr. Farmer and Mr. Simmins both say, that under certain natural conditions foul brood cannot continue to exist in a hive, and will be extirpated by the bees themselves. And foremost of these conditions I place warm sunny weather, with a good honey-flow, and it is simply astounding what a change can be wrought in a week or two under such conditions. I have had repeated and abundant evidence of the fact which I assert, and have seen a badly-diseased colony not only oust the disease, but also show a good record of honey-gathering the same year, and in the succeeding year lead the way in the whole apiary with no mean take of honey. I believe, as Mr. Farmer evidently does, that fresh, sweet air, bright sunshine, and good food are the best aids to sanitation and the greatest enemies of disease in the world.—LANCELOT QUAYLE, Glenmay, Isle of Man.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Sting Remedies (page 353).—What is the colour of Faith? I am convinced that it must be blue, since that is the colour beloved of bees, and much faith is needed by both bees and bee-keeper nowadays. Skepticism should be a thing of the past! But as a remedy for stings it must be the element of faith in the old-fashioned Blue, which is really effective as a cure. After all, faith is an *abstract* quality, and may help to get the pain out!

Advice on the subject to a recent victim, who, whilst refusing to stand still long enough for practical help, yet appealed for sympathy over a vulnerable Achillean heel, was to the effect that he should first visit a veterinary surgeon, who would poison the bee, and thus permit of its safe removal; afterwards go to a dentist, who would abstract the sting; then to a chemist, who would inject a palliative; finally, to a nerve doctor, and to bed! But sympathy only seemed to infuriate, as he danced about, foot in hand, at the alarming angle of a ship in distress! Had he heeled less he might have been heated the sooner, for with one of the old-wife remedies he might have been *docked* on an even keel!

Foul-air Disease (page 355).—Well, of all the difficult propositions! Cornwall is a terrible place for foul brood, because there is so much fresh air! (Mr. Farmer, page 314). Cornwall now discovers that the disease is due to the bad air in the hives, which the bees and the gales are unable to dislodge! (pages 355, 366). My own belief is that the cause is much simpler. It is the fact that the bees get their feet wet, and so have their vitality reduced! And the *sole* reason that the race of bees has not long since been run is that the rheumatism has acted as an antidote to their own poison! Further, my careful observations have led me to discover the interesting fact that worker-bees are invariably reared upon their backs, unquestionably for the purpose of preventing foot contact with the moist cell-wall! Later, it is only by a continual process of foot-brushing that they are able to repel the insidious germ, the spontaneous generation of which is solely due to some slip of the foot on the part of a careless bee!

Expert Certificates (page 364).—I still think that an examiner ought to be able to discover whether a candidate knows what he is talking about. I have grown to have the greatest suspicion of glib sentences from text-book, and I think that the examiner who simply accepts these is fulfilling only the letter of his instructions. No candidate who cannot detect foul brood ought to pass, and, in my opinion, a practical test is essential. Failing this, the competent examiner should fathom the candidate's acquaintance with disease. It can be done, with advantage to the candidate. I would that I might produce candidates in attestation of this. I, too, strongly believe that the third-class expert is too easily manufactured.

Bees Purloining Eggs (page 366).—It is to be hoped that the evidence in this case may be completed. For my part, I greatly doubt whether, as suggested, a German egg was purloined by Italian bees. But time will show, and the case is too valuable to be lost. It is, however, far more likely that the resulting queen, if any, will prove to have yellow blood in her. Just how the egg was preserved is not clear, but such have been shown to retain their vitality for long periods.

Supersedure (page 374).—How can there be no "cessation of laying"? Is it supposed that a queen will start right into laying duty immediately upon release from the cage? Experience leads one to doubt this, but I have not adopted the exact procedure outlined by "D. M. M."

Ideal Bee-weather (page 375).—Does

not Mr. Quayle put the minimum night-temperature rather high at 70 deg. to 75 deg.? Do we often get such periods in the honey-season? One would hardly expect them in the Isle of Man, with its "lower summer temperature."

Queries and Replies.

[3609.] *Moving Bees.*—Owing to the bad season my hive of bees is very weak; in fact, all the bees could be put into a good-sized tea-cup. I am anxious not to lose them, and have bought a hive from a friend with a view of uniting. His bees are about 1,000 yds. from mine; their usual flight is in an opposite direction. If I move the bees now, will they go back to their old place? I thought of transferring the frames out of the old hive into mine to take the place of my empty ones. I have the "Guide Book," but it does not just fit my case. Any hint in JOURNAL would oblige—KENDAL.

REPLY.—You must move the colony you wish to unite to yours at least a distance of two miles from where they now stand, and let them remain there for a few days. You could then safely bring them to your apiary. At a distance of only 1,000 yds. many bees would be lost unless the hive can be moved no more than 3 ft. a day, not reckoning the days on which the bees are not flying. To save time, when you remove the hive to the proper distance you could take your bees and unite them there, afterwards bringing the united hive to your apiary.

[3610.] "*Chapman Honey Plant.*"—I should be glad to know if the "Chapman Honey Plant" is a *biennial or perennial.* I have had several plants in bloom this year, and would like to know if I am to sow seeds now for next year's blooming, or will the roots shoot again in the spring? A note in the B.B.J. will oblige.—BASIL E. BUCKWELL, West Ealing.

REPLY.—The plant is a perennial, and can be treated as such, although frequently grown as a biennial, and renewed by sowing the seed in beds from April to June, and the plants pricked out in October from 2 ft. to 2 ft. 6 in. apart. Fully-established plants can be propagated by division of the roots in spring.

[3611.] *Amount of Stores for Wintering.*—I have given fifteen hives 18 st. of sugar (1 lb. sugar to ½ pint of water); nine hives contained bees who did not transfer themselves from skep when placed over brood-chamber. I drove them from skep, and returned them to box on September 4. The other six were bees driven from twelve skeps (2 to 1). They all have about four frames sealed over. Is this sufficient to last the winter? A reply in B.B.J. will oblige.—F. ANDREWS.

REPLY.—Each hive for safe wintering should have about three superficial feet of sealed honey, which, along with the unsealed stores, would last the bees through the winter and early spring. You may judge approximately by having the two outer combs well filled and sealed, and six other frames about half-filled with sealed stores. This is supposing that you have the bees on eight combs.

AUGUST RAINFALL.

Total fall, 2.26 in.

Heaviest fall in 24 hours, .60 in. on 14th.

Rain fell on 18 days.

W. HEAD, Brilley, Herefordshire.

PRESS CUTTING.

THE BEE.

Dr. Watts was right. The bee is really a most industrious insect. A plodding statistician has found out that each pound of honey secreted involves the necessity of the bee visiting 218,750 flowers. This in itself is no mean labour. That the bee is not gluttonous and does not consume more than it earns is conclusively proved by the fact that 164,000,000 lb. of honey are annually sold throughout the world for the delectation and comfort of the human race. The United States stand at the head of the list of honey-producers, with sixty-one million pounds, and Germany comes next with forty million. England's production is so small that the statistician has not taken any notice of it; but, somehow or other, the best from all other countries finds its way to the London market.

Bee Shows to Come.

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee Produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for Honey, &c. Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover Square, London, W. **Entries closed.**

October 17 to 26, at Waverley Market, Edinburgh.—Honey show in connection with the Eleventh Annual Edinburgh and Midlothian Industrial Exhibition. All open classes. Beautifully illustrated prospectus, price 2d., from A. Hutchinson, 15, Leith Street, Edinburgh. **Entries closed.**

October 24 and 25, at Kilmarnock, N.B.—Honey Show in connection with the annual exhibition of the Ayrshire Agricultural Society. Schedules on application to John Howie, Secretary, 58, Alloway Street, Ayr. **Entries close October 11.**

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

J. TURNER (Windsor).—*Examinations for Expert Certificates.*—As the "Guide Book" is recommended for study by the B.B.K.A. to those going in for examinations for expert certificates, you cannot do wrong in continuing your work in accordance with the instructions you find in it. The new edition contains all the most recent methods, and a candidate who is conversant with these will stand a better chance than one who is not.

W. G. ARCHER (Oxford).—*Lecturing on Bees.*—You will find all you require for preparing a lecture in the "British Bee-keeper's Guide Book." Lantern-slides can be obtained of the B.B.K.A., and application should be made to the Secretary, Mr. E. H. Young, 12, Hanover Square, London, W., who will supply list of slides and terms of hire.

APIS (Birmingham).—*Wintering Driven Bees on Wide-spaced Frames.*—1. We have not previously heard of driven bees being wintered on shallow

wide-spaced frames of comb from which the honey has been extracted, but we have no doubt they would winter well if so treated and fed up liberally. 2. Your second query is more difficult to answer so far as regards the idea of frames remaining wide-spaced after the winter is over. In fact, this notion is, to our mind, impracticable, because it is a *sine qud non* that brood-combs must be spaced at the orthodox distance apart. The only way, therefore, of making it a success will be to cut the combs down to the ordinary thickness and space them at the ordinary distance apart, till feeding-up is completed and combs sealed over. This done, if wide metal ends are substituted for those of ordinary width it would enable a greater number of bees to cluster between the combs, and thus secure the perfection of conditions for safe wintering.

J. A. SMITH (Shropshire).—*Normal and Abnormal Eggs in Cells.*—There is no difference whatever in the size or appearance of eggs deposited in cells by queens and fertile workers. It is therefore impossible to distinguish or judge except by the way in which the eggs are deposited in the cells.

Honey Samples.

S. E. M. (Romford).—Sample is a good saleable honey, partly gathered from limes.

J. C. (Kidbrook).—Your sample is fairly good lime-honey. It is probably the peculiar flavour of the limes which your customer objects to, as it is rather strong. It will be better when granulated.

E. P. YEO (Romford).—Honey probably had partly granulated in the combs, which would account for difficulty in extracting. Sample sent was almost granulated when received. It is of fairly good quality, chiefly gathered from limes.

VINEGAR (Keighley).—*Spurious English Honey.*—The sample sent may be genuine, but, in our opinion, is certainly not English clover honey. It appears to be from mixed sources, the predominating flavour reminding us of the almond blossom, whilst its semi-liquid appearance and colour are distinctly foreign.

Suspected Combs.

W. R. (Sussex).—The piece of comb reached us considerably flattened; but the drone we were able to extract was a very small one, and not fully developed. There does not appear to be any disease in the comb sent. We would spray the combs with a solution of ½ teaspoonful soluble phenyle to 1 quart of water after removing the few dead bees, and when the combs are dry they can be used again.

W. E. READER (Sampford, Essex).—The comb is affected with foul brood, and you had better follow the instructions in "Guide Book." No doubt the two hives you mention that have no bees or honey have succumbed to starvation. This has been a very bad season, and when supers should have been filling bees were starving, and many colonies that were not fed at that time perished in the same way. Robbing should be put a stop to at once by one of the methods described on page 162 in last edition of "Guide Book."

ST. MARY CRAY.—You are quite right; the comb is affected with foul brood in rather an advanced stage, showing that it is not a recent outbreak.

T. A. D. (Canterbury).—Comb is affected with foul brood of old standing, and as bees have dwindled so much it is almost hopeless to try to cure them. If you possess other healthy stocks we advise burning the diseased lots without delay, lest the healthy ones also become affected.

T. J. MANNING (Chester).—Seeing that the examination (made at our request) of brood-combs in the suspected hive has resulted in all worker-brood being found healthy and in normal condition, all fears with regard to the stock in question may be dismissed as groundless. The dead drone-brood was chilled only. Many thanks for your appreciation of the usefulness of the B.B.J. to bee-keepers.

E. L. (Gt. Yarmouth).—We find no trace of disease in comb sent—in fact, nothing worse than fresh-gathered pollen. It appears to be a clear case of the bees deserting their hives as "hunger" swarms owing to the complete absence of food in the fields at the time. We hope to refer to your case more fully later on.

S. J. (Cardiganshire).—Comb is affected with foul brood of malignant type. If stock is weak it will be useless to attempt a cure, but if you follow instructions given in "Guide Book," adapting them to your own particular case, you cannot go wrong.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

NOTICE THE LARGE ADVERTISEMENT in next week's "Bee Journal" for patent "Spoon Rest"; it will interest YOU.

EXCHANGE FOR DRIVEN BEES, English Nanny Goat, or will sell for 16s.; also Kid, Nanny, for sale, 6s.—J. BARRATT, 72, Colwyn-road, Northampton. c 80

PURE ENGLISH HONEY, good quality, sample 3d.; 58s. cwt.—DALTRY, Latimer-street, Oldham. c 32

FREE ON RAIL, and guaranteed free from disease.—2 Detachable Bee Houses, £5 each; 10 Colonies, 10s. to 16s.; 3 Empty Hives, 4s. to 6s.; 5 Section Crates, complete, 3s.; new, 14 Brood and 12 Shallow Crates, 1s.; and several used little; 40 New Frames, Shallow, half-wired (drone), 2d.; 1 gross Short Tie-over Jars, 6s.; 1 Hand Extractor, 14s., cost 18s., used about three times; 2 Smokers, 1s.; 12 Shepherd Dividers, 1s.; 4lb. 3oz. extra thin Super Weed Foundation, 2s. 9d. lb.; 2 lb. 6 oz. thin Brood Weed Foundation, 2s. 4d. lb.—STANDRING, 56, Central Drive, Blackpool. c 73

HEATHER BLEND HONEY, in 1-lb. screw-cap bottles, 10s. doz.—THOS. WILCOX, Talywain, Monmouthshire. c 79

WANTED, good Light Clover Honey.—Particulars to GEARY, Park Villas, Narborough, Leicestershire. c 78

ALNWICK FEEDER.—Made of wood, zinc, and glass. Price 6d. each. Postage of one costs 3d., two 4d., six 6d., dozen 10d.—J. BALMBRA, East Parade, Alnwick. c 77

FOR SALE, 12 Stocks of Bees, in nearly new Bar-Frame Hives, with Extractor and Appliances.—J. S. FORD, Hellingly, Sussex. c 75

GOOD SECTIONS AND LIGHT RUN HONEY WANTED. Taylor's 24s. Extractor for sale, 18s., used only one season.—CARTER, Chartridge, Chesham, Bucks. c 75

WANTED, any quantity Sections and Extracted Honey; good prices given.—JONES BROS., Monk's Acre, Andover. c 74

STRONG STOCKS, in Skeps, plenty Heather Stores, 1907 Queen, 12s. 6d., 13s. 6d.; Pressed Heather Honey, 9½d. lb., 28-lb. tins; pure white Leghorn cocks, 3s. — W. WOODS, Normandy, Guildford. c 72

EXPERT wishing to double his 100-Stock Apiary requires Partner. Particulars on application. —"PARTNER," c/o "Bee Journal" Office. c 69

QUEENS, 1907, 2s. 6d.; 1906, 1s. 3d.; free, from Driven Bees.—BRAYSHAW, Aultmore, Keith. c 70

Editorial, Notices, &c.

SUFFOLK BEE-KEEPERS' ASSOCIATION.

A meeting was held at the town hall, Ipswich, on October 1, for the purpose of separating the Suffolk Division of the Essex and Suffolk B.K.A., and to inaugurate a county Bee-keepers' Association for Suffolk. A good number of bee-keepers were present, the chair being taken by E. G. Pretyman, Esq., vice-president, who very ably presided over the meeting in the absence of the president-elect, the Right Hon. the Earl of Stradbroke. After some suitable remarks by the chairman on the advantages of having a separate county association, and the financial conditions had been stated by Mr. G. R. Alder, secretary for Essex, and Mr. A. W. Salmon, secretary for Suffolk, the meeting decided to separate the two counties, and the association for Suffolk was then formed. Presidents, vice-presidents, committee, and officers were then elected for 1908. The Right Hon. the Earl of Stradbroke, who takes a keen interest in the bee-keeping industry, was unanimously elected president. Those who have consented to be vice-presidents were elected as follow:—Lady Malcolm, the Hon. Mrs. Vanneck, the Hon. Miss Rosamund Hanbury, Miss Edith Cullum, Miss K. Watkins, E. G. Pretyman, Esq., Sir J. Gorell Barnes, Sir W. Hyde Parker, Bart., H. W. Lake, Esq., C.C. The committee appointed are Miss H. C. Orford, Miss K. Watkins, Miss V. Durrant, the Rev. G. T. Carpenter, the Rev. A. W. Gray, J. B. Chevallier, Esq., J.P., and Messrs. E. F. Goldsmith, W. Danvers, W. Crickow, O. C. Jones, J. A. Smith, and Block. Treasurer, Mrs. Ridley; secretary, Mr. A. W. Salmon, Cashfield House, Chingford.

At the close of the meeting a vote of thanks to the chairman was proposed by the Rev. G. T. Carpenter, seconded by the Rev. A. W. Gray, and carried unanimously.

The committee will be glad if bee-keepers in Suffolk will send in their names for membership to the secretary, and do all they can to promote the welfare of the Suffolk Bee-keepers' Association.—(*Communicated.*)

REVIEWS OF FOREIGN BEE-JOURNALS.

By "Nemo."

Workers Reared in Queen-cells.—M. P. Odier says in *Bulletin de la Soeiété Romande* that he has once more seen that one must not depend upon the size of queen-cells in destroying surplus ones, and that the largest do not always contain the finest queens. He states that a second swarm weighing more than two kilos (4 lb.) had several young queens, and it was furnished with a frame of comb having brood in all stages of development. Six days after the swarm issued examination showed that there was a young queen, but naturally no eggs, and those given in the brood-combs had developed into larvæ. A few days later, as there was no fresh brood and the queen could not be found, M. Odier came to the conclusion that she was lost, and then found three fine large queen-cells capped over. These were very long and enormous in size. Opening one out of curiosity, only an ordinary worker-bee was found in it. The others also contained only workers, which shows that the bees had started rearing queens from larvæ that were too old for the purpose.

Destroying Wax-moth.—The following plan for destroying wax-moth is given in *L'Apiculteur*:—Put in the cupboard where frames of comb are stored a stoneware dish, into which pour 100 grammes of hydrochloric acid (spirits of salt), and add to this 30 grammes of chloride of lime. Close the cupboard and make it airtight. Chlorine gas is then generated, which destroys all life. Be careful not to inhale the gas, as it is poisonous. The dose is sufficient for a cubic metre of space. This can also be used for disinfecting hives, poultry-houses, and dog-kennels.

Formalin and Foul Brood.—M. Pierre Granier relates, in *L'Union Apicole*, his experience with this. He says that in endeavouring to cure foul brood he tried all the known remedies, including camphor, naphthaline, essence of rosemary, salicylic acid, formic acid, naphthol beta, and also formalin, but none of these gave satisfactory results. He gives as the reason the constant infection of his colonies from the common straw hives of the neighbourhood, by which his apiary was surrounded. His bees were constantly visiting these infected hives for the purpose of robbing, which the proprietors did not take any precaution to prevent. They carried away the germs of the disease with them and deposited them in M. Granier's hives. After spending much time and money he came to the conclusion that the safest way was to destroy all affected colonies. He relates his experience with formalin. In 1903 he applied to a bee-master, who recommended this as the best treatment. It was simple enough. One to two spoonfuls of formalin were mixed with one litre of water, and with this solution bees and combs had to be sprayed every two days. With every confidence in the recommendation he operated on his hives. On the next day he found

all the bees in these hives dead. Of the thirty hives treated in this way twenty-five had been entirely destroyed. As to the remaining five there were not more than a few thousand bees left among them, and these were evidently the workers who were absent when the others were sprayed. Uncapped brood fared the same fate.

Federation of Bee-keepers' Societies.—A congress of German and Austro-Hungarian bee-keepers was held in Frankfort from August 5 to 8 which will become memorable, for it was at this meeting that all the antagonism that existed between the two large societies, the Zentralverein and the Reichsverein, was ended. The split occurred in 1897, and it is a happy augury for bee-keeping in Germany that bee-keepers can again meet on the same platform. According to *Praktischer Wegweiser*, these societies have decided to unite their forces under one name, "Der Deutsche Imkerbund," representing 100,000 bee-keepers, and it is expected, now that all differences have been adjusted, 50,000 more will give their adhesion to it. The amalgamation of the societies, with their branches, seems to have given general satisfaction, and we offer our congratulations to our brethren and expect great results from this federation. A society with 150,000 members should accomplish great things.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications. and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

AMONG THE BEES.

DRIVEN BEES.

[6851.] Locally these are dying out, and I have not established a stock from the home product for at least half a dozen years. Every season, however, I secure several lots from England. Many complain that these prove failures, but in most cases the fault lies in the acceptance of small single lots weighing only 2 lb. or 3 lb. They should never weigh less than 4 lb., and those weighing 5 lb. or 6 lb. are cheaper in the end. These, placed on drawn-out comb in the early days of August, secure ample stores for wintering. It is best, however, to give them some comb-building, and so two or three frames with starters, placed in the centre, will soon be drawn out, if feeding is done, or if a flow from the heather is on. This year and last my driven lots built out six combs from starters of foundation, then later on had two frames fitted with full sheets, and from these provided themselves with ample stores. They seemed even to pull ahead of those stocks established on combs, coming out in early summer richer in bees. Where little or no honey-flow is on, about two stones of sugar should be given in the form of thick syrup, well made from pure cane-sugar, with a small quantity of vinegar added to hinder granulation. Feed mildly warm, supplying in a rapid-feeder every evening after other colonies have quieted down for the day, and be careful to wrap up all warm and snug in such a way that no would-be robbers can possibly find admittance.

Preserving Small Lots of Bees.—Sometimes at this season we may have small lots on hand scarcely likely to survive by themselves. A weak colony of bees at the beginning of winter is generally a dead one by the end of that season, so it is folly to trouble with them. Still, some may contain young queens, some may be nuclei with late-bred queens, others may be a special strain worth preserving. In such a case select four or five of the best-stored frames, and place two lots side by side in a common hive, with a "Wells" dummy between. The mutual warmth generated and maintained by the (practically combined) lots enables them to pull through the winter and come out strong in spring. Frequently some hives in the apiary are found to have queens missing. Here is an excellent means of providing a new mother for such stocks:—Take out a queen from one of the lots in spring, and supply the queenless lot with a means of preserving them for future good work. By withdrawing the central dummy the two small lots will make one strong one. At that season of the year precautions in uniting are scarcely necessary, and especially so in a hive where the two lots have been practically one all winter. Hives of the combination type can be fitted up to accommodate three nuclei or weak lots at the approach of winter. Such combined lots consume relatively considerably less stores, and the certainty of carrying them through the cold season stands somewhat in the ratio of 90 to 1 if wintered alone.

A Superb September.—From the 6th of the month onward the weather was excellent, bright and sunny all day, with a high temperature even at night, while no rain fell throughout the month. Bees

revelled in the glorious sunshine; after their long confinement they seemed to derive a double dose of pleasure, and how they did wing it all day long from early morn to dewy eve! Previous heavy rains, sharp frosts, and boisterous gales had, however, combined to rob the heath-flowers of their nectar, and so the flow was not a heavy one. Alas! little of it went above, as bees showed a decided reluctance to re-start comb-building, although where drawn-out sections could be given they filled and sealed them rapidly. The body-boxes were fairly glutted with delicious heather-honey, many hives containing over 40 lb. Even where it exceeded that quantity I deemed it a sacrilege to touch it, so the bees can enjoy it as their well-deserved perquisite, and repay me next year with large armies and heavy surplus yields. The more my experience extends the more am I convinced that a superabundance of stores pays best.

Current Prices.—The poor season has helped sales, and sections are selling readily at the following prices:—Clover, 1s.; blend, 1s. 3d.; and pure heather, scarce and much inquired after, at 1s. 6d. It is quite a mistake to sell at a low price in such a season as this.

Robbers.—These are a great nuisance in an apiary at the close of the year, especially where feeding is going on. One of my driven lots was badly attacked by a colony of hybrids, the only one in my possession now, so the depredators were easily traced. I at once took off the feeder, contracted entrance to a single bee-space, and even shut them in with a sheet of perforated zinc from about 7 p.m. till 9 a.m. The flight-board was sprinkled with carbolic acid all but right in front of the entrance, and porch as well as front of hive received a painting of a very strong solution. Yet they persisted, beginning their prowl as early as 5 a.m., and keeping it up well into the forenoon, although nectar was to be had in the fields. I then made a false entrance in front of the genuine one, but shut off from it by a board, so that the bees had to walk down a tunnel to right and left, and then back through another one to find the true entrance. This puzzled the robbing crew, and cured them, or perhaps a fuller flow carried their energies to some more lawful and bountiful supply. In such a case, if it had continued, I would have carried the thieving bees some miles away, leaving them there until the season was over. Very generally robbers come from one or two hives. The news of stolen sweets being found travels fast and far, but the discoverers act selfishly and keep the knowledge confined to their own sisterhood.—D. M. M., Banff.

A LINE TO FRIEND D. M. M. (BANFF)

FROM DR. C. C. MILLER.

[6852.] On page 344 your esteemed correspondent Mr. Macdonald arises to make some remarks anent my definition of the term "tested queen." Immediately upon reading it, I should have proceeded at once to have a personal interview with Mr. Macdonald, flanked by my Scotch wife or her equally Scotch sister, but for the fact that Mr. M. has taken the precaution to locate at a place so remote from Marengo that a personal interview is out of the question. I therefore avail myself of the courtesy of your columns.

Friend Macdonald, I've read over several times your first two paragraphs on page 344, and I must say it isn't entirely clear to me what you're driving at. That you should consider my answer in any degree a "remarkable answer" is to me "remarkable." I wish you had told us what's wrong in it. You suggest that by the rule given I have not a "tested" queen in my yard. I don't see what that has to do with the case, although I may remark in passing that you are wrong in your supposition. If I should give a definition of the word "thief," you would hardly say that my definition was incorrect unless I could show a thief in my own family—now, would you? So I don't see why my definition in the present case may not be correct, even though I may never have owned a "tested queen."

You ask me to think once, twice, thrice, and again tell "what is a *tested queen.*" Well, I've given that number of thinks, and even then thought again; in fact, I've looked over my entire assortment of answers, and I can only repeat, "A tested queen is one whose worker progeny all show three yellow bands." There's nothing original about the answer; it may or may not suit me, but in defining a term its meaning in current use must be given, and the definition I have given is the one that has been in common use ever since "tested queens" have been an article of commerce. Of course, it is not necessary for me to say that an Italian queen is meant, for in this country, at least, when a tested queen is mentioned, if no modifying word accompanies it, "Italian" is always understood.

Now, my good friend M., please tell us why you object to the definition, and also tell us what you would consider the correct definition; also say a little more clearly what you mean about inconsistency on my part in connection with the matter, that I may either make confession or defend myself.

Permit me, Messrs. Editors, to embrace the present opportunity to send a word of kindly greeting to yourselves and all the

friends whom I constantly meet in your columns, and whose sayings and doings I always follow with the keenest and most kindly interest. The "big pond" is not so far across but that we can be very close together in thought and feeling.—Most cordially yours, C. C. MILLER, Marengo, Ill., U.S.A.

A STANDARD HIVE.

COVERINGS FOR FRAMES.

[6853.] Your remarks about quilts some weeks ago, coming on top of a recent experience of mine in regard to English hives, led me to reply to what I thought a misapprehension on your part in regard to the use of the quilt in the United States.

I have been for many years aware that our Senior Editor enjoys a deservedly high reputation both here and in America for his knowledge of both systems of bee-keeping. Nevertheless, inaccuracies may creep into the best technical papers, as when a contributor to your journal says on page 327: "The American system provides a cover immediately over the frames, either with *or without* bee-space."

Little-used types of hives in a country where there really is a standard, as in the United States, are not worth considering; the "Danzenbaker" section-super being the only notable exception.

In the American standard hive, commonly called the "dovetailed," but which it would be more correct to call the "Langstroth," there is invariably a bee-space above the frames in the brood-nest, and above the sections or extracting-frames in the super. For this bee-space there are reasons which the use of a quilt would neutralise.

The English system does *not* provide a bee-space at top, for which there may be equally good reasons. The flat American top and the gabled English roof are easily accounted for by the difference in climate and system of wintering. Therefore the use of the top bee-space and not the use of the quilt is the only real difference, if one wants to make a comparison of merit.

Personally, I should like to see the top bee-space adopted here, as, whilst those who wished to do so could still go on using quilts, a more facile accessibility between all parts of the hive could be allowed to the bees, and the super could be slid on to the hive with very little risk to the bees and the minimum use of smoke.

Without trespassing further on your time, I should like to make an appeal for a standard *hive* as well as a standard *frame* here.—MINNESOTA, Cambs.

[With regard to the quotation from "Cappings of Comb" (page 327) mentioned above, we have no doubt Mr. Crawshaw will prefer to answer for himself, and correct any inaccuracies he may be guilty of. But there is not much chance, we think, of a "standard hive" being adopted in this country, it being considered far better to allow perfect freedom with regard to the number of frames a hive should hold.—EDS.]

THICK COMBS.

[6854.] "How simple and convincing is the vigorous advocacy of Mr. Townsend in the *American Bee-keepers' Review* (quoted on page 387 of the B.B.J.)! I must forthwith alter the spacing of 1½ in. to 1¾ in. or more of all extracting supers." Thus I should probably have been tempted to cogitate and plan had I read such a forcible extract ten years ago. As it was, though filled with admiration for extra thick combs, I determined to hasten slowly—bought 100 wider frames from the late Mr. Howard, compared for a few seasons the work done in them and in the ordinary frames with 1½-in. spacing, and found the former sadly disappointing. Their end was a journey to the moors, and on their return the combs went to the press and the frames into the fire. I agree with Mr. Townsend, and yet I read his one-sided view with a smile mingled with sadness, because there was not a word of warning comment to guide the novice.

I would therefore suggest to any who were enamoured by the quotation that there is another side of the question, and would offer the following points for their consideration:—1. Our climate is not so suitable, because not so stable, for the production of thick combs as the American. 2. A super with 1¾-in. or 2-in. spacing will not be taken to so soon as another with 1½-in. space. 3. The combs in the former will not be worked with such an even surface, and the bee-keeper will be *compelled* to adopt the wasteful practice of *running his uncapping knife deep*. 4. The stock will not be so soon ready for another super, but may prepare to swarm. 5. The same super with eight frames will be completed in most seasons a week later than that with ten frames. 6. The quantity of honey harvested will be less—in a fair season probably the proportion of two supers to three. 7. The quality will be inferior as regards density. Compare both as soon as they are sealed, and notice the difference. 8. The super which is first finished will catch the early market; that with thick combs never, though it may later catch a judge's eye.

Granted that time is saved in handling, uncapping, and extracting eight frames instead of ten, to which we may add the cost of two sheets of foundation, must we not also fairly reckon the time

gained in two, four, five, and eight, in order to decide which are the more profitable—thick or thin combs?

If the matter were simply one of quickly dishing up honey, even Mr. Townsend must own that the German idea was smarter, because it does the work in literally double-quick time. Tack a thin board to one side of a frame, fix to the inner side a sheet of foundation, coax the bees to build only one set of cells, and elongate them. We will not say how long this and the ripening of the honey will take, for that is of no consequence; but the chief object will be gained: it will be possible to uncap them much faster than either thick or thin combs.

I, too, do not think it would be putting it too strong to say that two upper stories with such express (I was almost going to say scientific) frames can be uncapped as quickly as one with the eight frames for which our American friend goes solid. Why? Because these unique combs could be extracted in "half the time."!—Richard M. Lamb, Burton Pidsea.

ODDS AND ENDS ABOUT BEES, ETC.

[6855.] The past summer has been disappointing in more than the failure of the honey-crop. In all that pertains to the rearing of queens and observations on their flight my knowledge has not widened. As there was no chance of queen-rearing till late in July, I did not attempt it at all, and the only matter that has in a measure compensated for the lost pleasure was a series of notes made on the flight of workers to and from the hives. On setting out a very large number flew straight off, and these, I inferred, knew exactly where to go for the best forage. Others described a vast variety of curves—one going so far as a double figure 8. The wind and uncertainty of destination seemed the cause of these manœuvres. From the drinking-stream 40 yds. above my garden one would expect a straight line to be taken to the hives. But no. Few bees rose and took "the shortest distance between the two points." From these observations, and others made on the bees returning from the flowers, I conclude (for the time being) that in travelling from bloom to bloom bees lose their exact "whereabouts," and begin their return by an observation flight similar to that of the homer pigeon.

A Recantation.—In former notes I expressed some doubts as to cross-mating being possible from my nearest neighbour's bees, which are two miles distant. I found during the summer that one of his last year's virgins had been fertilised by one of my hybrid golden yellow drones. The shallow cone and the spiral, as well as the rectilineal, "bee line" seem to want confirmation yet. Perhaps, after all, they are creations of our own fancy and not of bee-life.

Re-queening.—I make a morning inspection of the ground in front of each hive, even in winter-time, and as a rule discover any "old one" thrown out. In a week's time I inspect for eggs. I had four such this summer—one in July and three in August.

In the spring of this year I found two drone-breeders where young queens had been given and accepted last August. I have within the last week overhauled all my hives, and find a probable explanation of these spring drone-breeders. As the queen ceases laying the bees sometimes rear a queen on the outer comb containing brood, and when allowed to emerge the reigning mother "goes under," as would have happened in two cases with me, and not a single drone (in the whole thirty hives) to act as parent in an emergency.—D. V., Dunaskin, N.B., October 6.

BEE-NOTES FROM DERBYSHIRE.

[6856.] Someone asked the question of me in B.B.J. some months since as to how I was getting on with my bees on the "Alexander" system. I will try to answer that in these few notes; but first of all I must say that the season has been a dead letter throughout.

Last May I had some of the finest stocks of bees I ever possessed. I picked the three best out and worked them on the "Alexander" system, intending to take the top swarms off at the end of eleven days. However, as the weather was so unfavourable, I let all the brood hatch out in top box instead, intending to put a super on when I took the box off. To my disappointment, I found that instead of bottom box of foundation being worked out and full of brood, there was only brood on three frames, and in others the foundation was partly eaten away, or in some cases it had not been touched for eight weeks, while bees dwindled away almost to nothing through the wet and cold. In my hands the "Alexander" system is a very good method to prevent swarming in average seasons, but in the past one it has been worse than useless. I tried to make one lot swarm by putting eight frames of brood and the bees off ten frames in a box, and, although they were wedged in there two months, they would not offer to swarm.

I had my attention called the other day to an account in *Record* of the extraordinary egg-laying of one of my queens last April. I remember it very well, and as perhaps your readers would be interested in the matter, I will refer to it here. On

or about April 1 I put a queen into a strong but queenless lot of bees. She was very prolific just then, and the weather —the all-important weather—was simply grand for about a week. As the stock was so very strong, and having no brood, I expect the bees induced her to lay as rapidly as possible, for when I examined the stock a week later there was brood on four frames from end to end. "D. M. M." said in *Record* you could not expect that pace to go on for long, and he was right, for at the end of the next fortnight she had only filled five frames. This could be accounted for by two good reasons:—(1) The weather was not so favourable, and (2) the bees were getting less until the brood began to hatch out. I did not look at stock again for about six weeks, when there was brood on nine frames. Alas! my hopes were shattered, for the frames were one mass of drones, and they turned out to be the hottest-tempered lot of bees in the apiary. I tried many times to find that queen to kill it. Sometimes I got one frame out, sometimes three or four. Then up they would swarm like a boiling pot and sting everything within reach. However, I did find her, though not till the stock had almost dwindled away, and re-queened it. I took it to the moors, thinking they would pick up a bit. They had gathered no surplus clover-honey, while what bit of heather they got does not cover five frames now. It is very disappointing after the good start they made, and unfortunately, also, that was one of the hives I worked on the "Alexander" method. I have had seven hives at the moors, which gathered no clover surplus, and they have come back from the heather as empty as they went, and will require feeding. I have about two dozen sections from two hives that did work in the supers a little, but it is not very good honey this year, being rather dark. The heather never seemed to bloom or smell the same as it did last year, though the weather could not have been better than it has been these last six weeks. My take this season is less than 50 lb. of honey from fourteen hives, spring count. These have dwindled down to eleven now, so I am looking forward to that good time promised for 1908.—Tom Sleight, Danesmoor.

BEES PURLOINING EGGS.

[6857.] With reference to the above subject (pages 366 and 398), on two occasions this autumn I have noticed my bees having purloined eggs from other hives. I observed particularly one queenless stock which I had been using for queen-raising. The young queen having been mated and transferred to another stock, the bees commenced and sealed four queen-cells; but not having any drones on hand, these cells were destroyed, with the intention of uniting the bees to another stock. This plan was not carried out, and upon examination of the stock eight days after the queen-cells were removed I found four other cells with larvæ and royal jelly. I am confident this could have come about in no other way except by the bees purloining eggs from some neighbouring stock. I well recollect when I first commenced bee-keeping twenty years ago attending a lecture given at Great Budworth by an old gentleman named Wild (I believe he is still living; he will be now about ninety years old). At that meeting an old bee-keeper of the parish related how he had a queenless stock, and that the bees had taken an egg from one of his other hives, and so raised a queen from it, and though his statement was rather doubted at the time, experience has proved him to be right.—H. Potts, Warrington.

BEE-STINGS AND RHEUMATISM.

[6858.] A few years ago I took much interest in the question of the cure or prevention of rheumatism by bee-stings, but, while there is no doubt these have been found beneficial in many cases, I could gather only negative evidence among bee-keepers of my acquaintance. In answer to Dr. Walker's third question (page 394), I will quote three cases of apparent failure of the bee-poison to relieve rheumatism.

A is an enthusiastic and most successful bee-keeper of thirty or more years' standing, and he has on more than one occasion written an apology for absence from the meetings of our association, stating that he was laid up with rheumatism.

B was formerly employed as an expert by our association, and was sometimes prevented from continuing his work by an attack of rheumatism in the middle of the touring season.

C, although having charge of several apiaries besides his own, suffers much from rheumatism, which prevented him one season from attending the examination for third-class expert certificates for which he had entered his name.

The matter is certainly an important one, and well worthy of thorough investigation, and I should be pleased to assist an inquiry by gathering particulars of various cases. The causes of failure in so many instances could no doubt be discovered. Would not Dr. Walker suggest the best method of experimenting? Where and when should the stings be applied, and in what number?—John P. Phillips, Hon. Sec. Worcestershire B.K.A., Spetchley, Worcester, October 5.

BEE-STINGS AND RHEUMATISM.

[6859.] I received my first sting thirty-five years ago (on the nose, too), and was surprised how little it pained me, for I have been stung hundreds of times since, and very often the pain is most excruciating for a few minutes, especially if the sting happens to be between the fingers. Thus my experience is that previous stings have no effect whatever in mitigating the effects of later ones.

Up to a few years ago I used to suffer from rheumatism in my knees, making it difficult to get upstairs; and although I was often stung by my bees, I had to take to bed at mid-day on one occasion, and got myself into a most profuse perspiration. *That* profuse perspiration has apparently perfectly cured me of rheumatism in my knees. Occasionally I have it in my arms and other parts, but can always cure it by massage. These remedies are, in my opinion, far preferable to 200 to 300 bee-stings.—A. HARRIS, Wavendon, North Bucks.

"WELLS" HIVES.

[6860.] These hives have been found by many rather awkward to use, owing to their size, but more especially because of the difficulty of moving one stock irrespective of the other. My experience is that if they are of the loose outer-case type it is a very easy matter to overcome the latter difficulty. The inner bodies only require to be sawn in two, thus making two good separate hives in one case, or two ordinary single bodies may replace the "Wells" body. "Wells" hives so used are extremely convenient and handy, while they are also specially valuable where doubling or uniting is practised; indeed, for practical work they are in most cases more convenient than single hives.—A. H. B., St. Day.

SWALLOWS AND BEES.

[6861.] With reference to the correspondence *re* the above (6791, page 297, and 6804, page 316), I am quite sure that Mr. W. R. Lister is right. I was watching my bees some time ago, and saw several swallows swoop down within a few feet of the front of the hives and fly off with a bee, whether a worker or drone I cannot say; but I saw a bee in the mouth of each bird as the latter flew away.

I have also seen the bees chase the swallows when they have come near the hives, which seems to prove that they fully understand that their intentions are for no good purpose. I think they only do this when they are rearing brood and other insects are scarce.—W. J. M. S., Kent.

WEATHER REPORT.

WESTBOURNE, SUSSEX,
September, 1907.

Rainfall, ·63 in.	Minimum temperature, 40° on 16th.
Heaviest fall, ·20 on 4th.	Minimum on grass, 36° on 24th.
Rain fell on 7 days.	Frosty nights, 0.
Below average, 1·42 in.	Mean maximum, 66·4.
Sunshine, 185·8 hours.	Mean minimum, 50 3.
Brightest days, 9th & 10th, 11·1 hours.	Mean temperature, 58·3.
Sunless days, 3.	Above average, 2·4.
Above average, 14·1 hours.	Maximum barometer, 30·427 on 16th.
Maximum temperature, 73° on 8th, 12th, and 20th.	Minimum barometer, 29·599 on 27th.

L. B. BIRKETT.

BEES AND SUNDAY SWARMING.

NOTIFYING THE SWARM.

The following amusing and perfectly true anecdote was related by Mr. Charles Munckton, Town Surveyor of Wimborne, Dorset, who is a bee-keeper and holds the second-class B.B.K.A. expert's certificate:—

"I have several stocks of bees located in the garden at the back of my house in the centre of the town of Wimborne. Sometimes, when I have not sufficient leisure to give my bees proper attention, they swarm and settle in the gardens of neighbours. In order to give some encouragement to those who will inform me where any swarm has clustered, I affixed a notice to the back gates of my stable-yard, as follows:—'The first boy or girl who gives information where a swarm of my bees have settled shall receive one shilling.' This had the desired effect. One Sunday I was present at the morning service in Wimborne Minster. During the service a loud rapping was heard at the church doors. One of the sidesmen on opening the door found a little boy who had discovered a swarm in his mother's garden and was determined to be first to give information so as to secure the shilling. A splendid swarm was secured, and the little chap had his shilling, and when a section of honey also was given for tea to him and his brothers, they all expressed a hope that my bees would swarm every Sunday all the year round."

Queries and Replies.

[3612.] *Wax-moth in Saw-scarfs.*—In one of my hives containing a this year's swarm, with quite new brood-combs, I find all the saw-scarfs have the

excrement of wax-moth, and I have killed some grubs. I believe it is not a danger to the hive (page 166, "Guide Book"), but would like to eliminate it. 1. Would it be any good putting putty to stop all exit at the top, or would they then work through below instead? 2. As they always seem to breed in the saw-scarfs, are there no frames which quite close up at the top; or would dusting powdered naphthaline along the saw-scarfs be any good? —E. M., Colchester, September 30.

REPLY.—1. If the saw-scarf is stopped with putty it would certainly prevent the wax-moth getting in. It will, however, try to gain admission at the entrance, but if the colonies are strong they are able to keep it out. 2. There are frames made without saw-scarfs, one being illustrated on page 73 of the "Guide Book," in which the sheet of foundation is secured by means of a wedge.

[3613.] *Best Districts for Bee-keeping.* —Will you kindly answer through your "Queries and Replies" column the following question? 1. What part of England is the best district for keeping bees? 2. Is there other honey than heather in Devonshire, *i.e.*, sainfoin or clover?—A. F. MACDUFF, Tunbridge Wells, September 28.

REPLY.—1. The best districts for keeping bees are where sainfoin and clover are grown. There are many such places, and more especially in the southern counties is sainfoin grown on calcareous soils. White clover is grown more or less in different parts of England. 2. Yes, we have seen very good clover-honey from Devonshire; some of this, of very high quality, took first prize at the Taunton show this year.

[3614.] *Uniting Bees at Christmas.*—Could you kindly inform me as to the following in the BRITISH BEE JOURNAL? 1. Would it be possible to unite two stocks, one very weak, at Christmastime? I shall not have access to my hives till then, so it is a question of either that or losing the weaker stock, which does not cover more than three frames. 2. Which do you consider the more profitable, sections or extracted honey from shallow-frames, allowing for the cost of the sections and foundation on the one hand, and the shallow-frames, extractor, ripener, and bottles on the other? 3. My honey this year, although light in colour, has a distinct greenish tint. Could you tell me the reason of this, and is it a serious defect for marketing?—H. T. H., Burwash.

REPLY.—1. No, bees must not be disturbed in the winter months. 2. Working for extracted honey is far the more profitable, and although a higher price is obtained per pound for sections, this is more than compensated for by the larger quantity of extracted honey obtained. 3. Probably the honey had an admixture of lime-honey, which would give it the tint you mention. If not dark or thin it would be no detriment for marketing, but if it is dark you would not get so good a price as you would for light honey.

[3615.] *Feeding Bees for Wintering.*—1. Will you kindly inform me through your paper whether it would be too late to begin feeding up bees with syrup for winter during the first week in October? I took ten filled sections from a hive at the end of August, but have been away from home and unable to attend to the bees since. I am returning this week, and am anxious to do some feeding, as I feel sure there cannot be much in the way of stores in the hive. 2. If it is too late for syrup feeding, would it be advisable to give soft candy, and about how much? Thanking you in anticipation. — A. H. S. BROOME, Hersham.

REPLY.—1. If the weather continues fine and warm there would be no harm done by feeding bees with thick syrup. It should be given warm in the evening, and the proper amount should be given as rapidly as bees will take it without delay. 2. Should the weather become cold you can give candy, and the amount will depend upon what stores remain in the hives. Frames filled with candy can be inserted in the hive at the sides of the cluster.

[3616.] *Comb-building Late in the Season.*—1. Will you kindly inform me how to proceed to get (if I can) an expert's certificate in bee-keeping? I commenced bee-keeping thirty-three years ago, read all I could about them, and practised same, to my great pleasure and satisfaction. I remember 80 lb. honey from one hive—a revelation after the straw-skep business, which destroyed the bees to get perhaps 18 lb. honey. Change of occupation, however, compelled me to give up my hobby, after five years' experience; but I have always retained one stock to fall back upon when the opportunity for keeping bees occurred. I began this spring with my stock stimulating early, and it was very strong by the end of March; and I thought about the 80 lb. of honey, or a swarm and perhaps 40 lb. I take the B.B.J. and *Record*, of course, and, through reading, rub up my old ideas and learn some new ones. My bees, however, would not go up into shallow-frames, neither did they swarm, as the weather was too cold and uninviting; so I decided at last to forgo honey, and make an artificial swarm, as my hive was very strong. All appeared satisfactory. They

drew out eight frames of foundation, and had three capped queen-cells from larvæ introduced; but after a time they dwindled gradually, and, on examination, proved queenless. So I got three stocks of condemned bees, and united with them, saving the best of a trio of poor-looking queens. They are now strong in numbers, and have nearly enough stores to last the winter. I also heard of, and secured, five other condemned lots, which I placed in a hive of ten frames, made up of partially drawn-out foundation and five frames of clean tied-in comb. So I hope to have three strong lots next spring to work with. 2. I understand bees cannot draw out foundation at this season. I fail to see why, if hive is crammed with bees, the temperature kept right, and they are fed judiciously—at least, I am hoping they can; and when I have finished feeding up will let you know. 3. I find brood does not hatch from driven bees, and should be glad to know why. Does it get chilled, or do the bees neglect it?—F. H. Newman.

Reply.—1. If you will apply to the Secretary of the B.B.K.A., Mr. E. H. Young, 12, Hanover Square, London, W., he will send you a circular giving full particulars of the requirements of candidates for expert certificates. 2. When warm weather ends, the cold nights cause the bees to cluster closely and cease comb-building. If you have plenty of bees, and can keep up the temperature of the hive by artificial means, no doubt you could get your bees to draw out foundation by feeding rapidly. You must, however, be careful not to alternate built-out combs with sheets of foundation, or you will obtain the result shown on page 153 of "Guide Book." 3. If the brood from driven bees does not hatch, it is probably due to the same cause—namely, the close clustering of the bees and allowing it to become chilled.

[3617.] *Uniting Bees.*—Last week I united a skep with a frame-hive. There was only about 5 lb. of honey in the latter, but there was a nice lot of capped brood in the skep, and about 15 lb. of honey. I therefore placed an excluder over the feed-hole in the quilts, and placed the skep on top of the frames to allow the bees to ascend and look after the brood, and also to carry down the stores from the skep, and so reduce the amount of artificial feeding needed. Was this the proper thing to do?—C. R. F., Herts.

Reply.—If we read your query aright, the skep and the frame-hive are at present each headed by a fertile queen; therefore the only trouble will be to select which queen is to head the doubled stock, and kill off the other one. The course adopted was quite right in the circumstances detailed above.

Bee Shows to Come.

October 17 to 26, at Waverley Market, Edinburgh.—Honey show in connection with the Eleventh Annual Edinburgh and Midlothian Industrial Exhibition. All open classes. Beautifully illustrated prospectus, price 2d., from A. Hutchinson, 15, Leith Street, Edinburgh. **Entries closed.**

October 24 and 25, at Kilmarnock, N.B.—Honey Show in connection with the annual exhibition of the Ayrshire Agricultural Society. Schedules on application to John Howie, Secretary, 58, Alloway Street, Ayr. **Entries close October 11.**

Notices to Correspondents.

F. H. Hubbard (Leicester).—*Doolittle's "Scientific Queen-rearing."*—The above book can be had from Geo. W. York and Co., 118, W. Jackson Boulevard, Chicago, Ill., U.S.A., or the A. I. Root Co., Medina, Ohio, U.S.A., price 1 dollar, or may be ordered through the B.B.J. Office for 5s., post free.

J. W. M. (Pembroke).—*Bee-nomenclature.*—There appears to be little or no difference in the three samples of bees sent. They are all hybrids—a cross between Ligurians and Carniolans—with slight traces of the ordinary native bee. It is impossible to prevent cross-breeding while bees of different races can commingle, as in your case.

J. G. S. (Bayswater, W.).—*Bee-parasites.*—The reddish-yellow insect you observed on the queen is the *Braula cœca*, or blind louse, which attaches itself to the bees, and is sometimes found in large numbers on the queen. A full description of this parasite is given in "Guide Book," page 169.

W. R. Howarth (Lincs.).—1. Queen sent must have been dead for some time, the body being quite hard and stiff. It cannot, therefore, be the one recently introduced. 2. We cannot account for a "cast" leaving the hive at this season. There must be some reason for what happened, and we cannot even guess at the cause of it, which does not appear on the surface.

Odier and Meyer (Switzerland).—We are pleased to receive so detailed a description of the two diseases that you have had in your apiary, and the specimens. The dried-up carcases you send are mummified bees, called by Germans "Steinbrut," and, according to the investigations of Dr. Maasen, are caused by a micro-organism called *Aspergillus flavus*. How and why this appears in bee-brood is not yet determined. The comb appears to contain black brood, and is different from either the virulent or mild type of ordinary foul brood.

Honey Samples.

Clover (Darvel, N.B.).—*Guaranteed (?) Pure Clover-honey.*—We do not find any trace whatever of clover-honey in

sample. Moreover—in our opinion—it is not English honey at all. It has all the appearance of foreign honey, and it would surprise us very much to learn that it had been produced in this country.

C. R. F. (Herts.).—Your sample is clear and bright, and of a rich golden colour, only fair in flavour, but would be more adapted for table use after granulation.

C. T. B. (Devon).—The sample of comb contains heather-honey of excellent quality, but the dark-coloured sample is only fit for bee-food.

A. Lowcock (Silsden).—There is very little heather-honey in sample, the bulk being simply honey-dew gathered mainly from the leaves of trees.

P. S. (Halifax).—We should class the sample sent as only third-grade honey in quality, and not one that could be sold as very palatable for table use. The aroma is bad and flavour strong and coarse.

Heather (Sidmouth).—No. 1 sample is not pure clover-honey; in fact, it is clover spoilt by a mixture from other sources, the flavour of the clover being quite absent. No. 2 is a fairly good heather-blend honey, far better than No. 1 in quality.

W. W. (Birkenhead).—We think that customers accustomed to buy good honey from you would not be satisfied with a similar quality to the sample sent. It is not a good table-honey by any means.

S. Berry (Faversham).—1. The quality of honey has been greatly deteriorated by honey-dew, which was so plentiful in many places this season. 2. The sample of syrup made a year ago is unsuitable for use in its present condition. It is far too thin, and is also badly fermented. The sugar used in making appears to have been unrefined cane-sugar. It might be used as spring food if boiled for ten minutes, and carefully skimmed to remove the scum on the surface before giving it to the bees.

A. S. (Norwich).—Sample is of fairly good quality, gathered mainly from the lime tree.

Novice (Carm.).—Honey is badly fermented, and is not at all suitable for household use.

R. A. G. (Penistone).—Honey is of very fair quality. It is from mixed sources, and will make a good table-honey when more fully granulated.

Suspected Combs.

F. K. (Bucks.).—There is not sufficient trace of disease in the single capped cell in sample, but we advise you to carefully watch the brood next spring about the time when it is due to hatch out for signs of foul brood.

Justice (Cheshire).—Bad case of foul brood of old standing. All larvæ have gone, the disease being in spore stage..

A New Reader (Inkpen).—No. 1 comb is very old and black, but contains no trace of brood in any of the cells. As it is infested with wax-moth and the bees have all died, your best plan is to destroy it and thoroughly disinfect the hive before using again. No. 2 is a fairly new comb with dead larvæ in a few cells. These show signs of ropiness when drawn out, indicating foul brood. If, as you say, most of the bees are drones, your best plan is to destroy combs and bees, and disinfect hive. Follow the instructions given on pages 179 and 180 of "Guide Book."

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

BRITISH QUEENS, 1907, fertile, 3s. each; 3-Frame Nuclei, 9s.—E. WOODHAM, Clavering, Newport, Essex. c 86

14 HEALTHY STOCKS, 2 "Golden All-Over," 2 Golden Italian, spare Hives, drawn-out Combs and Sections, 10 lb. Foundation, Wax and Honey Extractors, ¾ cwt. Sugar, &c., &c.; Inventory sent; owner leaving. First offer above £12; worth £20.—H. C. BROCKMAN, Colnbrook. c 81

ZINC GUIDES, for Division Boards, for helping Stocks to keep Spare Queens, 4d. per set; with Division Board, 1s. 6d., post free.—D. VALLANCE, Dunaskin, N.B. c 84

FOR SALE, 10 Stocks, in Standard Frames, 6 new this season, with lifts, ¾ in. wood, 13 Crates, 260 lb. Sections, 100 new Metal Dividers, 5 Feeders, 3 Queen Excluders, quantity Metal End Super Shallow Frames, Brood Frames, £10 the lot, guaranteed a bargain, free on rail.—J. RIPPER, Swaffham, Norfolk. c 87

SITUATION WANTED BY HANDY MAN, to assist Gardener; understands Bees, Making Appliances, &c.—GARDENER, Stables, Oakhurst, Midhurst. c 56

DRIVEN BEES, with Young Queen, 2s. 6d. lot.—C. WADEY, Broadstone, Dorset. b 88

MUST BE SOLD.—What offers for 2 Detachable Bee-Houses, 8 Colonies, on Standard Frames, 2 Swarm Boxes, for 5 and 6 Frames, 5 "W. B. C." Hanging Frame Section Boxes, new, 10 Brood and 10 Shallow Crates, and several used a little; 40 Shallow-Frames, half waxed; 1 Extractor, not geared; Weed Foundation, 4 lb. 3 oz. of extra thin Super; 2 lb. 6 oz. thin Brood; 12 "Shepherd" Dividers.—STANDRING, 56, Central-drive, Blackpool. c 85

FOR SALE, 4 Stocks, in combination Standard Frame Hives, Honey Press, Section Crates, all appliances.—D. COLLINS, Millfield-road, Whickham, co. Durham. c 82

FINE ENGLISH BLACKS, headed 1907 Queens, f.o.r. 5s. per lot; Extracted Honey, 60s. cwt.—BROWN, Expert, King-street Apiaries, Wellington, Salop. c 88

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

At a meeting of the Council, held on Thursday, October 10, preceding the conversazione of members, Mr. Walter F. Reid was unanimously elected to the vice-chairmanship, rendered vacant by the lamented death of Mr. T. I. Weston.

Reports on examinations of candidates for third-class expert certificates held in Bedfordshire and Kent were received, and as a result it was decided to grant certificates to Miss Gertrude Foster, Messrs. G. W. Bullamore, W. P. Gornall, Chas. Harris, L. W. Matthews, W. E. Shaw, T. A. Roberts, Huish Webber, and Arthur Webster.

The next meeting of the Council will be held on Thursday, November 21.

NOTICE.—Intending candidates for second-class expert certificates are reminded that the examination this year can be held on November 15 or 16, to suit the convenience of candidates in various districts.

CONVERSAZIONE.

After a short interval at five o'clock, during which light refreshments were served, the members reassembled.

The company present included General Sir Stanley Edwardes, the Rev. E. Davenport, Misses M. L. Gayton, K. M. Hall, B. Sinckler, and Elizabeth Tudor, Mrs. Bagot, Mrs. Pearman, Mr. and Mrs. J. C. Mason, Mr. and Mrs. Morgan, Mr. and Mrs. Geo. Dow, Mr. and Mrs. E. B. Jay, Messrs. Stephen S. Abbott, T. Bevan, F. C. Bernau, G. W. Bullamore, O. H. Bell, W. Boxwell, W. Broughton Carr, W. E. E. Charter, E. Chapman, H. J. Davenport, J. H. Davenport, H. R. K. Ellison, W. Emerton, Fred. H. Edwardes, W. W. Falkner, E. E. Ford, C. P. Ford, J. Garratt, L. L. Goffin, H. B. Goddard, W. Gee, Regd. R. Garratt, W. J. Goldsworthy, W. Herrod, H. Hills, E. Howard, J. B. Lamb, W. P. Meadows, R. Laurence Marsh, T. Digby Moore, A. G. Pugh, J. Price, John P. Phillips, Walter F. Reid, Geo. Richings, A. W. Salmon, E. R. Seadon, L. McN. Stewart, E. Walker, A. Willmott, and E. H. Young, secretary.

Upon the motion of General Sir Stanley Edwardes, seconded by Mr. Pugh, Mr. Walter F. Reid was elected chairman. After briefly opening the proceedings he called upon Mr. Hayes (who was obliged to leave the meeting early) to open a discussion on the subject of "Pollen—Its Advantages."

Mr. Hayes thought it a great honour that the Council had asked him to lead the debate on the subject named. He was of opinion that bee-keepers should always be ready to do their best, however little that might be, to popularise their pursuit and advance the cause generally. He was not going to propound any new or startling theory, but rather to restate something old, and endeavour to emphasise its importance, while avoiding any approach to dogmatism. The world was prone to speak of the disadvantages of a thing rather than of its advantages, and that was so as regarded pollen. It was quite usual to hear pollen spoken of as a nuisance to bee-keepers, as in the case of pollen-clogged combs, and he agreed that in supers any excess of it was very troublesome, but he believed that by a little thought and management of the brood-nests in districts where pollen was known to be over-abundant that might be avoided. With regard to the importance of pollen to bee-keepers, it was as well that they should remind themselves of what pollen consisted. Was it not the essence of the plant or tree and its fruit? The roots, the bark, the branches, and the leaves were only auxiliaries to the flowers that bore the pollen. This fact demonstrated its importance. The fertilising dust of the flowers, as they were accustomed to briefly call pollen, was, as most present were aware, the ovules with a cellulose covering, something like the covering of an egg, the shell. A better name for this dust was pollen-grains, the size of which varied from $\frac{1}{200}$th to $\frac{1}{2000}$th part of an inch. Of course, to see these grains separately a pocket lens was necessary, or, better still, a microscope with a $\frac{1}{4}$-in. or $\frac{1}{2}$-in. objective would be of great assistance in studying the shape and size of these grains. Each plant had its own particular coloured pollen. The form of the various grains was most interesting, and many were beautiful, some more or less beautiful than others; and each form and each colour was identical with the tree that bore it. Investigations of this sort formed, in his opinion, a good Nature-study. The microscope provided the means of identifying the source and purity of the honey. The bee-keeper from any sample of honey he took was able to trace the origin of such produce by recognising the pollen-grains, which, as already explained, differed in size and shape and colour according to the plant from which they were obtained: thus he was enabled to say from what source his honey was derived. Again, as regarded the adulteration of honey, the apiarist could take a sample of that known to be

pure honey and compute the number of grains he found within a certain area; this could be compared with another sample supposed to be diluted with glucose, whereupon the difference in the number of grains would be apparent, and that would form a clue to what extent adulteration had taken place. But, after all, the most important point in connection with pollen lay in the fact that it was a bee-food, and that was what he wished to lay special stress on. The very "fitting out" of the bee for the easy collection of pollen showed that the same was necessary for its welfare. The hairs on its body, the arrangement of them, the receptacle for bringing it home, all pointed to the importance of it in the hive, so that it became clear to the bee-keeper that he should see that his bees had sufficient pollen; for pollen to the bee was what bread and meat was to man, or, to put it more concretely, it was as oatmeal to the Scotsman. It built up the frame and renewed the tissues, thus making the bee strong and better able to resist foul brood, as well as carry out the work for which it was destined. Pollen was also used in the cappings for covering the brood. He had noticed this year a great quantity of brood in an advanced pupa state which had not been sealed over properly, and he attributed this in a great measure to lack of pollen. It was well known that sealing was often left over till late, when the conditions of heat were favourable, but he had never seen it postponed so long as it had been this year. Another consideration was in connection with driven bees. In many cases driven bees were put into winter quarters without any thought of pollen for them. They were placed on combs or on sheets of foundation, and fed with syrup, but the necessity for pollen was generally overlooked or forgotten. Now here was a use for the pollen-clogged combs. If these were reserved from summer or late autumn, or taken from the hives when driven bees were expected, they could be turned to a useful purpose. Driven bees could not gather sufficient pollen for their own needs, because the season was usually far advanced. Pea-flour was the best substitute for pollen. This might be given by dredging it into the cells dry, or by mixing it with a little syrup, or by placing it in another comb on the cluster. It could also be given to the bees as a sort of paste on the top of the hive in a feeder. These were the most important points concerning pollen that he wished to bring before the meeting, and they might be summed up thus:—(1) The interest of the subject as a Nature-study; (2) a means of telling pure honey from adulterated; (3) a necessary food for the bees at all times; (4) a necessity for the capping of brood; (5) its value to driven bees when put into winter quarters; (6) its use in resisting disease. Man must keep his body strong and full of tone to banish disease; so with the bee.

Before proceeding further with the discussion, the Secretary read letters from Messrs. T. W. Cowan, Henry Jonas, R. T. Andrews, W. E. Burkitt, R. Godson (Lincoln), P. Scattergood (Notts), and the Hon. Mrs. Bligh regretting their unavoidable absence from the meeting.

Mr. Moore then asked if there was any particular breed of bees that was more or less given to gathering pollen and putting it in the supers, to which Mr. Hayes replied that he had not experienced any difference between the habits of one breed and another in that respect.

Mr. Herrod attributed the difference—if any existed—to the nature of the district; and the Chairman confirmed this by remarking that some flowers yielded much more pollen than others.

Mr. Herrod also pointed out that the use of the excluder would in some measure prevent deposits of pollen in supers, as the bees could not easily carry it on their legs through the perforation in the metal.

Mr. Garratt thought Mr. Hayes had brought out one point strongly which should be very helpful to young bee-keepers, and that was the necessity for providing driven bees with a sufficiency of pollen. That was often overlooked, and in such cases it was only by accident that the bees survived. Intelligent observers had been struck by it. Bees which had not received an adequate supply of pollen in the spring of the year showed a tendency to dwindle.

Mr. Pugh said the fact of the bees not having sealed over the brood so early this year as in former years was an interesting fact, and worthy of consideration. It was certain that they had had more difficulty in gathering pollen than usual.

Mr. Meadows wished to ask Mr. Hayes what his experience was in feeding bees in the hive with pollen. Feeding them outside was of course common, but he had never heard of the former.

Mr. Hayes replied that he had mixed artificial pollen (pea-flour) to the extent of a ¼-lb. packet with a table-spoonful of honey and sufficient syrup to make its consistency like that of good thick cream. He then took an empty comb and ran the liquid into the cells, afterwards placing this comb on the outside of the brood-nest. He found the bees very readily cleared the mixture out, and took the contents into the interior of the hive. He had also fed them with the same mixture made into a firmer consistency on the top of the frames, but they had not taken it

quite so freely as they did from the combs.

The Chairman said there was a difficulty in making the bees accept this pollen. They would often not take it from pea-flour. Lentil flour was equally nutritious. The usual plan, when crocuses were out, was to sprinkle a little pea-flour on them; or another way was to distribute it in a box of shavings.

Mr. Carr asked Mr. Hayes if he had observed what was the result of giving the bees pollen and honey mixed. Did they separate the two substances, or simply store it as they do honey?

Mr. Hayes had not been able to ascertain how they stored it.

The Chairman considered the point an important one. The bees were in the habit of covering their pollen with honey.

Mr. Carr begged Mr. Hayes to give bee-keepers the result of his further investigations on this subject for publication at some future time.

Mrs. Pearman endorsed the Chairman's recommendation regarding the distribution of pea-flour in crocuses or amongst shavings. She had had personal experience of its effectiveness.

Mr. Hayes agreed, but there were no crocuses in autumn, and shavings were not always obtainable.

Mr. Bevan believed in the efficacy of the mixture described by Mr. Hayes. A large sheet of foundation containing it and covering half a dozen frames will carry the bees on till February. He did not quite see in what way the pollen could be a guide with regard to the special flower it came from.

Mr. Hayes, in reply, repeated that each plant bore its own particular kind of pollen, which differed as to size, form, and colour according to the source from which it was derived; and a study of all this enabled anyone to trace the origin of the honey. For instance, take pollen from hawthorn or lime or clover, whichever was prevalent in a given district, place each under the microscope, and observe its characteristics. Then take a honey sample, place it in a glass, stir it up, and leave it till the pollen-grains settle at the bottom; then with a pipette put these on a glass and examine them under the microscope, when the different grains from which the honey was gathered could be compared with the specimens taken direct from the plants, and identity established.

The Chairman thanked Mr. Hayes on behalf of the company for his valued suggestions and lucid explanations, and hoped that he would continue his inquiries regarding pollen and its advantages, and not fail to let his brother bee-keepers enjoy the benefit thereof through the columns of the B.B.J.

(Report continued next week.)

THE DAIRY SHOW.

The thirty-second annual show opened at the Agricultural Hall on Tuesday, October 8, and continued till the following Friday. Favoured with fine weather and a record entry, the exhibition—which on the whole was a remarkably good one—may be regarded as a great success. We were sorry to see that the rule applicable to nearly all the exhibitions of bee-produce held this year met with no better result at this show, the entries for honey, &c., being smaller than for some time past. In some classes the exhibits were exceedingly few by comparison, though the quality in some of the classes was excellent.

Messrs. W. Broughton Carr, London, and Ernest Walker, Woking, judged the exhibits, and made the following awards:

Twelve 1-*lb. Jars* (*Light*) *Extracted Honey* (10 entries).—1st, John Stone, Little Cubley, Derbyshire; 2nd, T. G. Hillier, Andover; 3rd, R. Brown and Son, Somersham, Hunts; 4th, Joseph Boyes, Cardiff; r. and v.h.c., S. G. S. Leigh, Broughton, Hants; v.h.c., Jas. Lee and Son, Highbury, London; h.c., E. C. R. White, Newton Toney, Salisbury; and R. Morgan, Cowbridge, Glam.

Twelve 1-*lb. Jars* (*Medium*) *Extracted Honey* (*other than Heather*) (11 entries).—1st, E. C. R. White; 2nd, Dr. R. Sutherland, Mortonhampstead; 3rd, S. G. S. Leigh: 4th, R. Brown and Son; r. and v.h.c., R. Godson, Tothill, Alford, Lincs; v.h.c., Jas. Lee and Son; h.c., E. H. Pankhurst, Meopham, Kent.

Twelve 1-*lb. Jars* (*Dark*) *Extracted Honey* (*including Heather Mixture*) (10 entries).—1st, Jas. Pearman, Penny Long Lane, Derby; 2nd, John Willson, Shirebrook, Mansfield; r. and v.h.c., Richd. Brown and Son; v.h.c., Jas. Lee and Son; h.c., F. J. Old, Northants.

Twelve 1-*lb. Jars Extracted* (*Ling*) *Heather Honey* (2 entries).—1st, Jas. Pearman; 2nd, W. Sproston, Shugborough, Staffs.

Twelve 1-*lb. Jars Granulated Honey of* 1906 *or any previous year* (8 entries).—1st, Richd. Brown and Son; 2nd, C. Lodge, Chelmsford, Essex; r. and v.h.c., Jas. Lee and Son; v.h.c., John Willson, Joseph Boyes, and R. Morgan.

Twelve 1-*lb. Sections of Comb-honey* (7 entries).—1st, Jas. Lee and Son; 2nd, E. C. R. White; r. and v.h.c., E. Robb, Outwell, Wisbech; v.h.c., Richd. Brown and Son; h.c., Jas. Pearman.

Six 1-*lb. Sections of Heather Honey*

(1 entry).—1st, Edwd. P. Betts, Camberley, Surrey.

Display of Comb and Extracted Honey (3 entries).—1st, Richd. Brown and Son; r. and v.h.c., Jas. Lee and Son.

Beeswax (not less than 2 lb.) Judged for Quality (9 entries).—1st, E. C. R. White; 2nd, Chas. Lodge; 3rd, Jas. Lee and Son; r. and v.h.c., John Berry, Llanrwst, North Wales; v.h.c., Richd. Brown and Son; h.c., R. Morgan.

Beeswax (not less than 3 lb.) in Marketable Cakes suitable for the Retail Trade (6 entries).—1st, Jas. Pearman; 2nd, F. Harris, High Ferry, Sibson, Lincs.

Interesting and Instructive Exhibit of a Practical Nature (no entry).

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of September, 1907, was £2,658.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[6862.] *Isle of Wight Bee-disease.*—I agree with Mr. Crawshaw's suggestions (6845, page 393) for assisting our friends on the island, and would add that in my opinion the best way to re-establish bee-keeping there will be to supply prime natural swarms in preference to sending established stocks; but, as Mr. Crawshaw says, the first thing to be done is to cleanse thoroughly the hives and appliances. I would also suggest trenching the ground round and in front of the place on which the hives have stood, on to which the bees crawled out to die. No doubt some bee-keeper in the island will have invested in new stock this summer, and his testimony as to the success or otherwise of his venture will be helpful to others, as it would be futile to send a new stock of bees to the Isle of Wight unless one felt sure the epidemic had passed away and left no spores behind ready to attack the new colony on arrival. I would therefore suggest caution for a time, and only attempt to re-stock in a tentative way with a few swarms in different parts of the island.

Bee-stings and Rheumatism.—I remember some years ago the editor of *Gleanings* (American) saying they had received an order from an American physician for something like 10,000 bee-stings or poison-sacs. I have myself noticed that my twinges of rheumatism soon vanish when I begin to work among the bees each spring. Some may attribute this benefit to the warmer weather, but I give the credit to the inoculation with bee-sting poison.

Tested Queens.—I notice Dr. Miller's definition of a "tested queen" (6852, page 403). In America it appears to be one whose progeny all show the three yellow bands. It will be interesting if our queen-breeders will give their standard of a "tested queen." For myself, I still stand by "ye olde Englishe bee," and I consider a good tested English queen to be one bred in May or June under the natural swarming impulse from selected stock, and whose brood-nest shows three, four, or five frames according to size of nucleus, along with large patches of brood in every cell, fourteen to eighteen days after she has mated. Such queens I have proved year after year to be most prolific and profitable the following season.

"*How to Cure Foul Brood in Five Minutes*" appears in *Gleanings* (September 15 issue), in which Mr. Cleaver goes one better than Mr. McEvoy's "shake-off" system. The writer of the article places another hive under the foul-broody stock, and allows the bees to transfer themselves to the bottom hive. But perhaps our Editors may find room to print the article in full in our JOURNAL some day.

Packing Bees for Winter.—In doing this bee-keepers should see that each stock has sufficient food to carry it through the winter, and, if not, give a good-sized cake of candy according to requirements. These cakes are best placed over the feed-hole in quilt and wrapped up warmly with some soft material. By moulding the candy in a box with glass lid we can any day during winter see when bees are flying without disturbing the stock, and renew as required. Three little pieces of wood laid across brood-frames provide winter passages.—W. WOODLEY, Beedon, Newbury.

THE PAST BEE-SEASON.

A RETROSPECT AND ITS LESSONS.

[6863.] Looking back to the early days of the season just closed, one is forcibly reminded of the old adage, "There's many

a slip "'twixt cup and lip"; for when, I would like to ask, were bees more promising or more likely to give a good account of themselves than during our last beautiful Eastertide? "Too forward," as a bee-keeping friend expressed himself then, and in many cases his words proved only too true, seeing that the most forward and strongest went to the wall first, their very numbers hastening their destruction where heedless owners neglected to give them that support they were unable to get for themselves. Later on, our friend "D. M. M." tried to cheer our hearts when he wrote (on May 16, page 192): "Prognostications point to a successful season in apiculture, and I for one am prepared to picture the present outlook in the rosiest of colours. . . . The liveliest interest is taken in preparing for the campaign which has just opened. Bee-keeping is in the air!" Alas! that it should be so, but, to paraphrase the poet Burns,

The best-laid schemes o' *bees* and men
Gang aft agley.

Not till summer was on the wane, about July 15, did the poor bees get their opportunity in these northern latitudes. Then for a week or so they had a busy time, clover yielding abundantly under the influence of a genial spell of fine weather. Stocks strong enough to occupy supers in many cases filled them, and queens began laying more rapidly than at any time during the season. In early August brood-chambers were packed with brood, and later on huge populations of young bees filled the hives, causing some stocks to swarm as late as the middle of the month. Unfortunately, the ling bloomed very late, and probably this accounted for the poorness of the bloom when it did come. But the weather was superb, so still and bright, with the maximum amount of sunshine daily, allowing the bees to close a memorable season by packing the combs in the brood-chamber quite full, and in some cases even filling a rack of sections. On packing down for winter I found almost every hive with a superabundance of stores and plenty of young bees, with most of the queens still laying (October 10).

Retrospection is not always pleasant, but often most instructive. Lessons many and valuable can be learned from past experience, especially so in one of the very worst seasons on record, as we must admit the present one has been. First and foremost, the advice given to prepare our stocks for next season, by sending them into winter quarters with abundance of stores, has proved to be sound and needful by many of us this season. In a ten-frame brood-nest the bees may sometimes have too much food, but it is wise policy to let the advent of next year's honey-flow prove it. Only stocks which have enough to last till then can be said to be thoroughly prepared for winter. The folly of tinkering with feeders in early spring has been amply demonstrated.

Another lesson of 1907 is, once having begun feeding in early summer, never leave it off till the honey-flow comes. Let me say here that I have never yet experienced a season so bad that some surplus could not be got; and in years like 1907 the only way to get it is to have the bees at full strength when honey is ready to be gathered. Feeding too early is, to my mind, a great mistake; but begun in time and continued—even though it be midsummer—is the only way in which the bees can be got ready, in seasons like the past one, for a sudden and short honey-flow. Here is a "dodge" which worked well with me this year. If two hives standing together are neither of them strong enough to occupy supers at the beginning of the honey-flow, after a spell of cold or wet weather, as soon as the bees are seen to have begun storing heavily, remove one (that with least uncapped brood) of them to a new location in the middle of a fine day. The flying bees of both lots will all enter the hive which is left, and in a few days will store therein a very large surplus, whereas if both hives had been left standing, the supers would probably never have been occupied. Some hives, robbed of their flying bees in this way last July, are as good now as any, and some of them have stored surplus at the heather. But, by way of caution, let me say warm weather and a honey-flow are absolutely necessary to make this operation a success.

The honey-flow over and surplus removed, stocks should be prepared for next season or for the heather, and in addition to feeding (fast or slow as circumstances require) re-queening should be undertaken where needed. Old queens are useless for the heather season, and it is simply waste of time and material to prepare elaborately for wintering a stock which is headed by an old queen. Do not leave it to the bees to supersede her; do it yourself, and that before packing for winter.

I fear this part of our routine work will have been in many cases neglected in 1907. I hear of great difficulty in getting queens mated. In this respect how useless is the "baby nucleus" system in such a year as 1907! I did not try it myself, but relied on strong nuclei occupying three or more frames, and nearly all my queens were safely mated.

"There's no an ill but micht be waur," sagely quoted our Editors recently. Quite true with respect to the past season, for how much worse it might have been! Many of us Northerners did get a little

clover-honey, and have we not just experienced the most brilliant autumn weather we could possibly have? While writing, I can see from my window a beautiful plot of wild daisies in full bloom and garden flowers in abundance, and the foliage has scarcely yet begun to assume its beautiful autumn tints. It is, however, raining; the first wet day since the beginning of September, and the bees have kept indoors all day for the first time during the same period.—G. W. Avery, Armathwaite, Cumberland, October 12.

BEES FOR THE ISLE OF WIGHT.

THE SUGGESTED RELIEF FUND.

[6864.] Up to the time of writing (October 12) there has apparently yet been no response to my suggestions made on page 396 in your issue of October 3. Owing to so many diverse opinions which seem at present to exist upon the best method of going to work, I am afraid the opportunity of sending driven bees has been missed. I may, however, say that Mr. Owen Browning's fine lot of driven bees—which he gave a month ago to Mr. B. Russell, of Limerstone, Isle of Wight—have settled down like successful wintering. They have been put on eight frames of foundation and fed upon syrup, with salicylic acid and boracic acid added. The district is one which formerly had thirty-five stocks of bees, owned by four bee-keepers, and the last colony of these perished about six months ago. The recipient, Mr. B. Russell, has kept bees for thirty years, and, as evidence of his care, one of his stocks was the last to succumb. I hope soon to report better progress.—John Silver, Croydon Grove, Croydon.

BATTLING WITH FOUL BROOD.

[6865.] Bee-keepers who live where foul brood exists may, I think, be encouraged by my success in resisting its power to harm. There has been a good deal of natural scepticism manifested by correspondents in the B.B.J. with regard to the claims and statements made by me in connection with this disease, and I have therefore asked Mr. Stapleton and Mr. Pascoe (who have just been through all my hives and driven all the bees) to send for publication their report as to the condition in which they found them. I may add that none of the stocks have had any treatment whatever since early June last, thus showing that foul brood practically ceases with the advent of the honey-flow. Contrary to the general belief, my experience is that weak stocks develop foul brood more than strong ones, and that the stronger the stock the less progress does the disease make. With only a few diseased cells in a hive, I naturally object to any law which would compel the destruction of the honey or wax found in such a hive; it would be a very gross waste of valuable products. Those who cannot agree with me must at any rate admit that my experience justifies my attitude. I may add that I lose nothing whatever by driving the bees. I get wax and honey enough to cover costs. If bees were badly diseased I should of course destroy all.—W. J. Farmer, Redruth.

The report referred to above reads as follows:—"We beg to report that we have just been through all Mr. Farmer's hives and driven his bees. We found only the slightest traces of foul brood—in some cases not more than half a dozen cells in a whole hive of ten frames. We also found plenty of honey to cover all cost for winter.—(Signed) T. Stapleton, W. Pascoe, September 16."

RAPID BEE-DRIVING.

[6866.] I wish to put on record the very smart work done by Mr. Stapleton and his assistant on a recent occasion. The time occupied in driving every bee off the ten combs of one hive did not exceed one minute, and from opening the hive to finishing it not two and a half minutes, and not a single bee was left on any comb. There was no uproar at all in the apiary, and although Mr. Stapleton wore neither veil nor gloves, he got only one sting (on the hand). I never saw work done more neatly or expeditiously; it was a real pleasure to see it performed. I considered myself a very fair operator, but I cheerfully acknowledge the very superior quickness and expertness of Mr. Stapleton. Our American friends do some quick work, but I think that even there they cannot beat this record—the result of a life's experience and natural quickness.—W. J. Farmer, Redruth.

[It would be well for our correspondent to avoid confusion of terms by describing the work done by Mr. Stapleton as "driving" bees. What we are led to suppose took place was simply removing the bees from each frame of comb—as the latter was lifted from the hive—by shaking or brushing the bees off. This is altogether a different matter from "driving," which is understood by all bee-men in this country to mean getting the bees from a combed skep into an empty one placed above it. Without disparaging Mr. Stapleton's smart work, we may also say that any good expert can remove the bees from a frame of comb by a single stroke of a proper brush on each side of the comb, or remove nearly all by a couple of *downward* shakes properly done.—Eds.]

SOME BEE-NOTES.

[6867.] Referring to the remarks of "D. M. M." on the subject of "robbing" by bees (6851, page 402), when wishing to find out where the robbers come from, my plan is to dust a little air-slaked lime on the bees hovering around the hive attacked. This seems to confuse the robbers, and they make a "bee-line" for home. I am certain that each lot has a laying queen. I then change the positions; that is, put the robbed hive in the place of that occupied by the marauders, and vice versâ, and repeat this plan every third day. With me it answers perfectly in stopping the mischief.

Thick Combs.—Until I saw Mr. Lamb's letter (6854, page 404), I thought myself quite isolated in preferring shallow-frames spaced 1½ in. apart; but, being a trifle cranky—or practical—I often use them for hiving driven bees on. Eight of these shallow-frames have about the same cubical comb-capacity as a skep, and if the bees are well fed and placed over a body-box with standard frames in April the shallow-frame super is ready for removal in July, and may again be used after extracting. I should say they would be very convenient to hive swarms in instead of skeps, if placed at once over the usual hive-body fitted with standard frames. Of course worker-cell foundation is an indispensable condition.—A. Harris, North Bucks.

UTILISING A NUMBER OF QUEENS.

[6868.] It is possible to introduce a plurality of fertile queens all together on one set of combs in one colony without dividing them with perforated zinc by following the general directions given in "Increase" and "Commercial Queen-Rearing," viz., by shaking the bees into a swarm-box on to clean, strange combs. This done, shake the bees from a queenless stock, and after one or two hours of confinement run in any number of fertile queens (taking said queens from mating-boxes) in full laying condition. May I remind your readers that the "Swarthmore" books are on sale at the B.B.J. office?—E. L. Pratt, Swarthmore, Pa., U.S.A.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Autumn Expansion (page 376).—This wintering experiment is worth repetition. I wish that every one of my standard-frame colonies was upon twenty combs, the "upper ten" being sealed to the foot. But "J. M. E.'s" argument as to the reason for the late honey success is not so clear. Surely this colony must have been stronger than the others, as before division it covered at least thirteen frames to their ten. Again, each half gave more surplus than the next best stock. According to the argument as I understand it, bees with brood give less surplus than an equal number of bees without brood. Then why not, so far as each stock is concerned, destroy the brood so soon as the honey-season opens? Or, in other words, pile up the brood over a few stocks, and make artificial swarms of the rest of the apiary?

At the Heather (page 376).—How much heather surplus is there this year of grace? There is very little indication of any in the advertisement columns. But that does not deny its existence. For my own part, the journey to the moors has not been quite fruitless. There is no surplus, it is true, but the poverty-stricken body-boxes have been supplied, and the honey will be put to the test this year for wintering purposes. If it does not granulate it is all right; but it so often granulates!

Insurance Against Foul Brood (page 381).—What chance would an insurance scheme have in this country? It would necessarily mean expert examination of the insured hives from time to time, and inspection seems to be what a certain class of Englishman most resents. Yet the matter of disease is one which can only be dealt with by co-operation. An insurance scheme would seem to be the least offensive method of compensation. Of course, the healthy members would have to pay for the unhealthy ones. But that is the principle of most insurance, and is it not worth their while?

Hants Notes (page 383).—What is the variety of heather which is a *surplus* in Hants? Is it the ling? It would be interesting to compare notes of the various moors with a view to finding out at what elevation this plant does best.

(Idem.)—Drone-grubs in sections imply drone-comb. This is all very well in extracting frames, but sections are, I think, spoiled by its use; whilst worker sections are almost safe, without excluder, from intrusion by the queen.

(Idem.)—It is difficult to understand why this writer condemns the purchase of bees for the I.O.W. as money thrown away, and in the next breath advocates the sending of driven bees! Surely the fate of the one would be the fate of the other. There is no immunity in driven bees!

Stolen Eggs (page 384).—It would seem foolish to assert that this theory cannot be. Here is a small nucleus of Italian bees—some 500 or so. On August 3 it is made queenless, and ten days later cells are destroyed. On August 31 an egg is discovered in a queen-cell, and on September 16 a black virgin is found. A re-

markable chain of evidence, if the details are exactly correct. But further proof is wanted before the conclusion can be taken for granted. I know that I am only an old stick-in-the-mud, but until I am convinced I will not believe. Admitting that bees can transfer eggs, is it not possible that such an egg may have existed in the nucleus? Had the nucleus been previously tenanted by a black queen? Will queens raised from the August 3 Italian all prove to be yellow? Or, further theory, is it not possible that a queen entered the nucleus, and either disappeared or went as she came? There has been some evidence already to show that queens are occasionally subject to vagaries of this kind. Who will make a few hundred queenless nuclei to further test the matter?

The Defeat of Foul Brood (page 386).—French polish as an armour against the enemy is a new idea. Polish the inside of the hive and the frames until there is no roosting-place for the foul germs. It is hard to imagine a surface which would provide foothold for the bees, and no microscopical shelf for the little wiggly microbes to sit upon! Why not line the hive with plate glass?

Has it ever struck anyone that the reason wasps are free from the disease is because their cells are vertical and the bacilli things tumble out? Herein is the solution: simply to place the combs horizontally in the hive and fill the upper cells with disinfecting fluid. Then when the foul ones lay their eggs or fall out of their nests they drown! Not only a defeat, but an utter rout!

Queries and Replies.

[3618.] *Wintering Bees.*—I kept bees in "Cowan" hives sixteen years ago, but gave up owing to leaving the country. Being desirous of re-starting bee-keeping, and having a preference for the "Cowan" hive, will you kindly say: 1. Are they still in use for up-to-date bee-keeping? I have been completely out of the bee-world, so am anxious to know. 2. Also please say do you recommend packing a hive for winter with newspapers between the calico quilt and the top flannel quilts? I may say this was done in the case of a rather weak colony which I packed last week for a friend. I placed 4 lb. of candy above the cluster, and cut the newspapers to fit round the two 2-lb. candy-boxes so as to fill up the space tight; then added two warm old blankets above. I am anxious that this young lady's bees should winter safely, as she is a beginner, and the bees are valuable, being Mr. F. W. L. Sladen's "British Golden" variety. I shall do likewise to my one stock—also of Sladen's strain—which is now very strong, with plenty of sealed stores. I should be grateful for your opinion *re* the above.—D. R., co. Cork.

Reply.—1. The "Cowan" hive may be had from any leading appliance dealer who advertises in the B.B.J. 2. As your query is accompanied by an order for the "Guide Book" (now sent), there will be no difficulty about winter packing when using the "Cowan" hive, as full directions for same are given in the book. With regard, however, to other hives, the plan you followed will do very well indeed, and should ensure safe wintering, if the bees are not "rather weak," as stated, either through disease or being headed by a failing queen.

[3619.] *Uniting Weak Stocks.*—Being an amateur in bee-keeping, I would like your advice on the following, which is a puzzle to me. I united two weak stocks of bees successfully through having followed the instructions given in your valuable "Guide Book," but am at a loss how to give the bees the honey which the skep contains, and which is partly unsealed. Would it be advisable, after the bees have settled down in their new home for a week or so, to put the skep bodily on top-bars of the frames, and let them carry the honey down? I might say that the frames below are only partly filled with comb and honey. I have left seven frames in the hive on which the bees will winter, and am giving them syrup until I see my query answered in the B.B.J., to which I have been a constant subscriber since this year came in. I think the new "Guide Book" an ideal text-book, especially for beginners like myself. I send name for reference, and sign—Amateur, Durham.

Reply.—You should first, with a sharp knife, uncap any sealed honey there is in the skep; next place a queen-excluder on the top-bars of the frame-hive, and above this place first a single quilt or piece of carpet large enough to cover the body-box all round, first having cut in the quilt a circular hole about 6 in. in diameter. Then pack the skep carefully and closely up with old flannel or any warm material. The bees will in due course carry the food down, and winter all right if other conditions are favourable.

[3620.] *Softening Hard Water.*—Can you tell me in the next number of the B.B.J. if hard water can be softened and made perfectly fit for rendering combs down for wax by means of any chemical, &c., as my rain-water tank has failed, and I am in a fix?—Richard M. Lamb, Burton Pidsea, Hull.

Reply.—Sulphuric acid is generally used

for rendering wax from combs, but if you have not a very large quantity of these for melting you can use vinegar in the water. We know of no other way except by distilling.

[3621.] *A Beginner's Query.*—Will you be kind enough to give me a bit of information through the B.B.J. about my bees? I am a novice at bee-keeping, having bought my first two swarms last June in skeps. I put the skeps into frame-hives on six frames because they had some brood in the combs when I bought them. Having done this, I thought the bees would go down on to the frames below, but on looking at them I find they are still in the skeps. I bought a copy of the new "Guide Book," but cannot find how heavy they should be to winter in the skeps. But I weighed them on September 19, one weighing 24 lb. and the other 23 lb. Since then I have given them 18 lb. of sugar syrup. Are they safe for the winter, and should I leave them in the wooden hives? Wishing the B.B.J. every success, I send name and sign—MINER, Notts.

REPLY.—The time for setting bees in skeps above the top-bars of a frame-hive, for the purpose of transferring themselves to the latter, must always be gauged by the condition or readiness of the skeps for the operation, as directed in the "Guide Book." In your case the needful conditions were evidently absent; hence the failure. For the rest, we may say the skeps will no doubt winter safely as they are, so far as the food-supply goes, but we should be inclined to take away the body-box of the frame-hive, and set the skeps direct on the floor-boards of latter, if no work has been done on the foundation.

[3622.] *Unnecessary Feeding in Autumn.*—I should be grateful for your advice on the following through the B.B.J. Since the colder weather set in I have discontinued syrup-feeding and have placed on each hive a 1-lb. cake of medicated candy. Though the latter has been on the hive for five days, I find that the bees have used it all. I therefore ask:—1. Shall I be doing right if I continue to put on candy as long as the bees use it? I notice that the bees fly freely by day and carry in a good deal of pollen, and the hives are well filled with natural stores. 2. There seems an idea among bee-keepers here that feeding as late as this unduly excites the bees when they should be quiet. Is this so? Name sent for reference.—BEGINNER, Cornwall.

REPLY.—If there is an ample supply of stores already in hives, as stated, candy-feeding is not necessary, and may be dispensed with. The rapid disappearance of the candy in no way denotes scarcity. 2. It is quite correct to say that feeding very late in the season tends to excite the bees when they should be quietening down for winter.

[3623.] *Utilising Unfinished Sections.*—I should be very much obliged if you would let me know what I should do with a lot of half-filled sections of honey, some of which are partly capped over and others are not. Would the uncapped ones keep if I put them back in the section-rack and packed them well up? Would they do to put on next summer to give the bees a start in the sections? Please let me know in what way I can utilise them to most advantage.—C. MACLEOD, Oban, N.B.

REPLY.—Such of the sections as are more than half filled had better be utilised for use on the home table without delay before they begin to crystallise. The remainder could have their contents given to the bees by placing the rack above the brood-chambers of hives (that need feeding for winter), covering the sections with a single quilt of calico to ensure the bees carrying the contents below by keeping the rack cool. If put away as they are for winter the honey would be almost certain to become solid and unfit for use as comb-honey.

[3624.] *Beeswax and Its Uses.*—I should be glad if you could give me any information as to where I could find particulars regarding beeswax. Have there been any articles in your journal? and if so I should be glad of the dates when they appeared. I am anxious to find out the different kinds of wax and their use in manufacture and commerce. I seem to remember reading articles some time ago in either the B.B.J. or your monthly *Record*, but cannot trace them now. Apologising for troubling you again, and thanking you for your reply to my last query—BASIL E. BUCKWILL.

REPLY.—A pamphlet on beeswax and its uses was published some years ago at this office, and had a large sale. It has been out of print only for a few months, and a new edition, revised and brought up to date, is being prepared for publication.

[3625.] *Removing Unsealed Honey from Hives.*—I have constructed a supering frame for placing in hives during the honey-season, and should be pleased to have your opinion through the columns of the JOURNAL on the following points in connection with its construction:—1. Would bees fill combs springing from a horizontal base as readily as combs starting from a vertical base? 2. Would honey taken automatically from such a frame before being sealed be deficient in quality,

and would the use of a ripener lessen its deficiency? 3. Do you consider that with the preventing of combs being filled swarming would be reduced to any extent, and would bees forsake a frame the combs of which they could not fill? 4. Would it not be an advantage to have the honey gathered during the day deposited into a glass without the necessity of disturbing the bees? I send name for reference.—LEARNER, Kilmarnock, N.B.

REPLY.—1. Any departure from the natural form or direction in which bees construct their combs will be resented, and Nature's way restored as far as possible by the bees themselves. 2. Yes; because honey must be allowed to "ripen," *i.e.*, have its superfluous moisture evaporated, or it will not keep for any length of time. A ripener would only lessen the difficulty, not overcome it. 3. It might have the effect of delaying preparations for swarming by the frequent upset caused in removing the honey; but in our opinion "the game would not be worth the candle." 4. We can only give our personal view, which is in the negative, if we understand your question aright.

Bee Shows to Come.

October 17 to 26, at Waverley Market, Edinburgh.—Honey show in connection with the Eleventh Annual Edinburgh and Midlothian Industrial Exhibition. All open classes. Beautifully illustrated prospectus, price 2d., from A. Hutchinson, 15, Leith Street, Edinburgh. **Entries closed.**

October 24 and 25, at Kilmarnock, N.B.—Honey Show in connection with the annual exhibition of the Ayrshire Agricultural Society. Schedules on application to John Howie, Secretary, 58, Alloway Street, Ayr. **Entries closed.**

Notices to Correspondents.

J. M. (Pittormie).—*Current Prices of Honey.*—It is quite beyond us to say "what price this year's honey is likely to rise to, in view of the limited supply." We can only refer you to our advertisement columns and also to the letter of our esteemed Scotch contributor "D. M. M.," who on page 403 last week quotes clover sections at 1s., and with heather-blend at 1s. 3d., while pure heather sections are in good demand at 1s. 6d. each. We are told that first-class clover in screw-cap jars are selling retail at 1s. to 1s. 2d. each.

T. C. (Bruton, Som.).—*Supposed Queens Cast Out of Hives.*—1. The two dead bees sent are not queens at all, but simply workers, so that you need feel no alarm, so far as regards loss of queen in either the skep or the frame-hive from which they came. 2. Your sample of honey is from clover only; there is no trace of heather about it.

B. OWEN (Sydenham).—*Valuing Bees for Disposal in 1908.*—The value of your bees cannot be gauged by anyone without personal inspection, and that should take place after the present winter has been safely got through.

F. HAYWARD (Wiltshire).—*Value of Old Bee-books.*—The value of the respective books named will depend somewhat upon their condition, but according to current prices they are worth, in the order given: No. 1, 3s. 6d. to 4s. 6d.; No. 2, 1s. to 2s.; No. 3, 1s.; No. 4, 3s. to 4s.

Honey Samples.

P. JAMES (Aberdare).—Sample is good in colour and fair in flavour, but, being very thin and unripe, it is not in good condition for keeping owing to the probability of its fermenting.

H. JACKSON (Crowborough).—Your granulated honey is of fairly good flavour, but a bit rough in grain. It is, however, a good marketable honey.

R. J. H. (Hither Green, S.E.).—The sample marked "H.G." has been gathered mainly from the lime-tree blossom, gauged by its flavour. There is no clover-honey in it. Flavour is fair, but consistency is rather thin. The honey marked "W." is also from mixed sources (not clover), but shows none of the lime flavour. It is also very thin indeed, and, being unripe, will not keep well, but is likely to ferment if not used soon.

CRAKE JEVINGTON (Polegate).—Sample is clear, bright, and good in colour. It has a distinct heather flavour, that makes it very suitable for table use.

Suspected Combs.

KÜTTE (St. Asaph).—The brood on one side of comb lies in a compact mass of sealed cells, the larvæ therein showing no sign of disease. It appears a clear case of chilled brood, and as the reverse side of comb is foodless and quite broodless, it suggests a case of death of the larvæ following on semi-starvation of the colony.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

WANTED, Good Hive. Exchange fowls or rose trees.—STEED, Fennes Lodge, Bocking. c 96

TWO GOOD STRONG STOCKS BEES, in wood buckets, perfectly healthy, and full stores, 7s. 6d. each.—LITMAN, Castle Cary. c 94

FOR SALE, 56 lb. of Pure English Honey (dark). Best cash offer.—E. G. BARTON, Culford, Bury St. Edmunds, Suffolk. c 89

FOR SALE, several small lots of Bees, in straw skeps, with fertile Queens, guaranteed healthy, 4s. each.—A. GREEN, Tangley, Andover. c 95

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

CONVERSAZIONE.

(*Continued from page* 413.)

The Chairman said that the Council had received a letter from Mr. Alder, hon. secretary of the Essex and Suffolk Association, advocating the issue of labels by the B.B.K.A., and concluding with the following proposition:—"That the B.B.K.A. should adopt and issue a honey label for sale to affiliated associations." The Council were extremely anxious to do anything they could to further the cause of bee-keeping, and they thought the present a suitable opportunity to take the opinion of the members, as so many were assembled there that evening.

Mr. Garratt suggested that the subject which had a prior place on the agenda should be taken first—namely, "The Difficulties of the Present Season."

The Chairman replied that the order of the subjects had been altered by the Council previous to the conversazione in order to suit the convenience of members who had a long distance to travel, and the one mentioned by Mr. Garratt had been put last because the gentleman (Mr. White) who would have introduced it was unavoidably prevented from attending. Nevertheless, if Mr. Garratt would consent to fill his place the meeting would be glad to hear him.

Mr. Garratt, after protesting that he had not come prepared to carry out so unexpected a task, said that he would be pleased to say a little with regard to bee-keeping in Kent during the past season, having had the opportunity of seeing it in various parts of the county. Briefly put, the difficulty of the bee-keeping season this year had been to obtain honey, and the cause thereof was undoubtedly the lack of sunshine. Those were the most striking features of the past season, and he could not see how the scarcity could have been obviated. All would remember that in the month of April bee-keepers were very sanguine indeed, the dominant idea being—How is the produce to be disposed of? That was a marked instance of reckoning on chickens before they were hatched. Besides the splendid Easter weather there was a bright period about the middle of May, coincident with the blossoming of the cherries and plums. Those few fine days were taken advantage of, and the best part of the harvest was gathered at that time. The weather conditions when the limes blossomed (they bloomed somewhat later than usual) were quite unfavourable to honey-gathering; but there was another period when the bees made a desperate effort to do something, and some lime-blossom honey was secured. It was the experience of many bee-keepers that swarming had taken place to an abnormal extent, and a large number had found great difficulty in preventing their bees from swarming. The cause of that was worth investigation, which if carried out would probably add to the general knowledge. He was quite sure that the many bee-keepers present must have formed their own ideas as to the reason of such abnormal swarming. It might be said that it proceeded very much from the overcrowding of the hives through the rapid breeding which had been set in motion during the short spells of fine weather, and then the unwillingness of the bees to take to the supers. They could often be attracted by a "decoy section" or built-out combs; but where the supers were only furnished with comb-foundation the inducement did not appear to be sufficient. Bee-keeping might be helped a good deal by having in reserve unfinished combs and sections of last season, and perhaps an inferior section might be spared to act as a "bait." He raised this matter because experience had suggested to one bee-keeper (a lady) that if some means could be found of feeding the bees after supering that would remedy the evil. She, therefore, set to work and produced a little feeder, which was made to occupy the place of a section. (The speaker exhibited the article for inspection.) His own view was that one of the difficulties of such a season as that of the present year was one felt during May, when the bees stored a great deal of honey, that the time had come when the hive might safely be supered; and then immediately afterwards a great change occurred in the weather. People were nevertheless reluctant to remove their supers, expecting as they did that there would soon be a return to normal conditions, which unfortunately did not happen. Now, if the bees could have been encouraged to remain in the supers that would have afforded a check to the swarming.

[The little appliance is very simple, and was passed round for inspection. Made entirely of tin and lidless, the outer case is, in size and form that of an ordinary 1-lb. section. The syrup-holder—also of tin—fits loosely into the "case," and is furnished with a slide made to cover the two feed-holes through which the bees gain access to the food through a narrow slot in bottom of the outer case, to which are affixed rings for lifting the feeder out when required. It is refilled from the top through a hole with a screw-cover.]

He had tested it, and thought it a perfect little feeder, and well adapted to

encourage the bees into the supers. It would have been of great service during the spells of cold weather experienced during the past season.

The Chairman spoke in highly appreciative terms of Mr. Garratt's remarks, and congratulated the audience upon having before them an appliance for use at the end of the season, which would help them over similar difficulties in the future.

Mr. Ellison asked if any explanation could be given of the inordinate amount of drone-brood found in the hives this season.

Mr. Herrod admitted the difficulties that had been prevalent throughout the past season. Mr. Pugh had earlier in the evening referred to the numerous cases in which brood had not been sealed over. That had occurred in some hives where there was plenty of pollen, but although the brood had not been properly capped over, yet it had hatched out and emerged from the cells satisfactorily. Strange to say, this omission to seal would occur unaccountably perhaps in three or four hives in an apiary, while in all the rest brood-sealing had been finished off properly. But for several years past he had seen occasional instances of brood remaining partially unsealed. It had not been a case of overdosing with naphthaline with regard to them. Another of the difficulties was connected with queen-rearing; he meant with regard to the fertilisation of young queens and in cases of swarming. Again and again the queens produced had turned out to be drone-breeders in cases where two or three small swarms had been joined together. No doubt they were second swarms, and the queens had not been fertilised. Another difficulty had reference to the comparative frequency with which queens had been turned out of hives. One morning he picked up four or five queens thrown out in this way, and that from swarms working under normal conditions. Undesirable swarming had occurred to a great extent, but it was not owing to the need for room. He had seen cases in which the bees had been allowed any amount of room and every facility for going to work, and yet swarming took place. Then later on, when the nights were cold, the queens ceased ovipositing. There was more brood in some hives three or four weeks ago than in the height of summer, the diminution being due to the cold nights. With regard to the excess of drone-breeding, possibly the explanation he had given might in some measure account for it, or the queens found their way through the excluder and upstairs into surplus-chambers, where they started depositing eggs in drone-cells.

Mr. Ellison said there had not been any undue deposit of honey to explain it.

Mr. Bevan asked if any bee-keeper present had experience of bees eating their own eggs. A friend of his had complained of this occurring, and he (Mr. Bevan) attributed it to the fact that there was no food in the hive.

The Chairman jocosely suggested that this must surely be some new disease!

Mr. Herrod, in reply to Mr. Bevan, said that bees would eat the eggs, and even suck the juices from the larvæ, when hard pushed for food. Egg-eating also happened sometimes in the case of small colonies headed by very prolific queens.

After some remarks from two gentlemen whose names did not transpire, Mr. Carr said that he could hardly give any practical experience of his own on the difficulties of the past season, but only that of others, and his conclusion, derived from a considerable amount of information received at the B.B.J. office during the season, was that a great amount of trouble had arisen in consequence of the failure of bee-keepers to keep an eye on the storehouse. Thus the bees muddled on, and their owners, in some cases, wondered why there was no honey in the supers, without reflecting whether there was any honey to be gathered or not. Then, in another direction, they had an instance in which a bee-keeper had lost eight strong stocks out of fourteen or more this autumn, and had sent up a frame of comb as a sample, explaining that the bees had deserted the hives, leaving similar combs in each, and asking for our opinion as to the cause thereof, saying: "The bees had gone—he did not know where." Upon examination of the comb he (Mr. Carr) had no great difficulty in explaining the most probable cause. There was absolutely no sign of food in the comb sent, and he therefore regarded it as a clear case of neglect or unintentional carelessness on the part of the bee-keeper. There was no doubt in his mind that the bees left the hives as "hunger" swarms, and distributed themselves wherever they could in the contiguous hives of the owner's apiary or in others in the immediate neighbourhood. Mr. Carr then passed round the comb in question for inspection.

Mr. Pugh agreed that many bee-keepers were often wanting in that forethought which would at times avert a catastrophe. He had himself an out-apiary, and in April last visited it for the purpose of putting on supers and seeing whether all was going well with the queens, &c. He at once recognised the necessity of starting to feed, and the result was that those bees had got on fairly well all through the bad season,

thanks to a little heather in the locality, while other bees in the immediate neighbourhood had died out. The truth is these last-named bees had no food wherewith to maintain themselves, and had not a sufficient number left to gather the little nectar available. In 1888 they had a similar summer to the last, except that there was more rain. There had not been an extra quantity of rain this year, the greatest evil being that clouds and dull skies had intervened so largely between the bees and the sun. On the other hand, 1887 was one of the best seasons for honey he himself had ever known, and it looked as though the Giver of all good had taken care to provide the stores for the lean year that was to follow. He thought they might draw some consolation from that, which should fortify their hopes for the future.

Mr. Carr, adverting to the comb he had exhibited, hoped that would serve as an object-lesson, and prove the necessity of taking the trouble to carefully examine and find out the condition of the bees as regards stores at the beginning of the season and during its continuance. The case was one of absolute starvation. The frame of wired comb was an ideal one for the brood-nest, and well worth putting back into the hive for use.

Mr. Bernau asked whether it was not possible that the bees swarmed and lost their young queens in going out.

Mr. Carr replied in the negative, saying the only explanation he could offer was that there was nothing in the hive, nothing to be had outside, and nothing in the shape of food administered by the owner to keep the bees at home.

Mr. Hayes remarked that the frame seemed to show that the stock was a strong one at the time of desertion.

Mr. Hill (Derby) said he had himself established a small nucleus this autumn, which he had no doubt was a "hunger" swarm. There was brood in the combs when inspected, but the edible parts of many of the larvæ had been sucked away, leaving shells quite dry. The bees of this nucleus colony were recently trying to join on to another stock, the bees of which were killing them off as fast as they could. He took possession of the queen and utilised her for other purposes, and (he was almost ashamed to say it) he had left the bees to be killed off! His opinion was that they were victims of starvation.

Mr. Carr thought that a strong lot of bees would no doubt make their way into another hive by sheer force of numbers, and be accepted, whilst a nucleus colony would not.

Mr. Herrod said this rule did not always hold good, for he had shaken out no more bees than he could hold in his two hands together in front of a hive, and had seen them run in and be accepted.

Mr. Lamb hoped that the proceedings of that evening would be strongly accentuated in the B.B.J. report. He knew that there were many bee-keepers who did not take the trouble to read, but left their bees to fate, not knowing what was going to happen. He had recently come across one who had been keeping bees for years, and who complained of his want of success. When he (Mr. Lamb) told him he ought to give them pollen sometimes, he replied: "Cannot they get this for themselves?" And this gentleman made a similar answer when it was explained to him that during May and June, when the weather happened to be cold, the bees must be provided with stores. A good bee-keeper would study his bees, and not sit still and await disaster, but know beforehand what to expect and guard against.

Another gentleman said that in his locality the bees were supered in April. Very little was done, and after a time he found they were taking down what they had put up, in consequence of which he provided them with syrup.

Mr. Bevan said he had several hives within a yard of each other. One became very weak, and he determined to join it on to the next. It was promptly done in the simplest possible way—in about two minutes. He simply shook the bees out in front of the new hive, and they were accepted without any fighting!

A member complained that an enormous visitation of aphis in his district last season had destroyed the apple crop, and a great deal of honey-dew had been gathered from the orchards. His own produce this year was mostly honey-dew.

The Chairman was surprised at this, because it was generally in a dry season that bee-keepers were troubled with honey-dew.

Miss Gayton said there were a great many lime-trees in her neighbourhood, and much honey-dew had been gathered by the bees this season. She had seen the leaves of trees black with it.

A gentleman spoke of the trouble he had had with honey-dew. About seventy or eighty of his sections were entirely spoilt by it. Yet honey gathered by bees within a mile of his apiary appeared to be untouched by that nuisance.

Mr. Carr said that the bulk of the information received at the B.B.J. office showed that the lime crop had been completely spoilt this year by honey-dew. He had had scores of samples sent proving this.

The Chairman said his best honey this year had been obtained from the early and late flowering limes, especially the latter. Some years ago he advocated the planting of them, and in consequence had secured a good part of his honey this year quite free from honey-dew.

General Sir Stanley Edwardes asked if

it was not a fact that a small amount of honey-dew would contaminate an enormous amount of honey. If so, there might not be such an excess of it as was supposed.

Mr. Carr could hardly agree to that. It required a great deal of honey-dew to contaminate in so high a degree as in the majority of samples he had inspected. The lime-honey had also been very thin this season, which was unquestionably owing to the pollution. He showed a sample of lime-honey completely ruined by honey-dew.

Mr. Herrod bore out the Chairman's view. He thought the aphis had come from the smaller fruits—currants, for instance, where he had seen them. He found that just a few cells containing honey-dew in combs would to a certain extent spoil the honey, and give it just the slight dull tinge which told against it for selling purposes, as compared with bright honey. If a lot of honey-dew were present the taste would detect it. Fifty or a hundred cells of it in a shallow-frame would undoubtedly spoil the honey.

Mr. Bernau asked if the aphis was a product of the lime-tree.

The Chairman could not think that the lime produced the aphis. The question was whether the leaf of that tree suited the parasite so well that it was produced in enormous numbers. In some cases it might be favourable and in others not. But, on the other hand, there were many things that preyed on the aphis; he had seen wasps eating it. He (the Chairman) might mention that in one of his section-racks he found two or three combs in which the wax was dark brown in colour, while in all the others the combs were built of the ordinary type. The comb in the sections shown was built from starters of foundation. It was well known that bees would use old combs to make new ones with, but it was curious they should have used so much old material to build new combs from as in the section before them. There had been no brood at all in the comb shown.

Mr. Hayes said, as regarded bees confining their work to one section, his own bees this year had invariably kept to just a few. He had found in more than one super half a dozen sections had been started and only one finished, while some of the others had not been looked at. This fact might help to the formation of a conclusion as to the sections being built from the dark comb shown by the Chairman. Perhaps the bees had concentrated their efforts on the few at first.

A member here explained that he had had to feed his sixty stocks of bees this autumn, giving them 25 lb. of syrup each for the winter.

Mr. Herrod, referring to the amount of stores required for winter, humorously remarked that he thought it might be taken for granted that if the bees had seven frames full of food they would winter well! (This declaration was received with general approval and merriment.)

The Chairman, in summing up the discussion, said he never had any trouble in seeing whether there was sufficient food in the hive, because he used a celluloid quilt. He thought that what they had heard could not fail to do good, and impress all bee-keepers with the great necessity there was of keeping close watch on the condition of the stores in the hive.

(*Report continued next week.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

AMONG THE BEES.

SMOKERS AND SMOKE.

[6869.] A good smoker is a *sine quâ non* in successful bee-keeping, but many inferior ones are on the market. Two grave faults are often found. Many smokers are made without any grating, with the result that a cloud of ashes or burnt paper, sometimes red-hot, is vomited out on the poor, unoffending bees, singeing them and tainting the honey. Others have the holes in grating so small that it quickly clogs up, hindering the issue of any smoke at all, so that the bee-keeper loses control of the bees, and frequently evil consequences follow. Many of the smokers sold are mere toys, and prove traps to the unwary. Such are worse than useless in an emergency. Others are so stiffly constructed that they can scarcely get up steam, and prove a heavy tax on the muscles, especially when they have to be worked with one hand. Quite a number of the cheaper ones have no guards. Consequently they get overheated, and the operator's fingers suffer. A good smoker should have none of these defects, but be capable of pouring a long, strong, steady stream of smoke on the bees. Not that this is generally necessary, as in nine cases out of ten a very gentle puff is all-sufficient. Learners should not be taught so much the use of

smoke as the *abuse* of it. Too much is often worse than too little. I don't think I ever blew a single blast into a hive before opening it, and I feel sad for the bees when I see a bee-keeper blowing away with his smoker at the hive doorway for some minutes before manipulating. Open the hive quietly without jarring, lay all coverings aside but the quilt. Peel this off gently, giving just a mild puff of smoke—not poured at the bees, but softly wafted over the tops of the frames. This renewed periodically as the examination goes on generally suffices to restrain the bees from any overt or aggressive act. Until the summer is well advanced a gentle "zephyr" proves fully effective as a quietener or intimidant. Later when taking off surplus a gentle breeze is needed, but only when driving should a miniature hurricane be blown into the hive. Strong, malodorous blasts when taking off sections taint the honey with the fumes, and honey is so very sensitive to any strong odour that it imbibes and retains it for a long time. Although not dealing with carbolised cloths at present, it may not be amiss to repeat that they, when too strongly impregnated with carbolic or any kindred intimidant, very readily taint surplus. Great care should therefore be taken not to have the solution too strong or the cloth overcharged, as in either case the honey is almost inevitably bound to suffer in flavour and aroma. Many kinds of smoker fuel are very pungent, and pour out a heavily smelling cloud of smoke, which clings to the honey, marring its delicate and luscious bouquet, and at times making it assume a nauseous taste, highly objectionable to a delicate and sensitive palate.

Next to being provided with a good smoker, and knowing how to make a good use of it, comes the question of the best combustible to use. Nothing is more provoking when in the middle of some delicate or dangerous manipulation than to find, at the most critical moment, that the smoker has gone out, and that we are left at the mercy of the bees, who may be in a most militant mood. See to it, then, that your smoker fuel is ready beforehand, and that it is of a kind which burns well. Soft grey or brown paper, dried well in the kitchen oven before using, generally serves the purpose very well. Avoid thin, close-grained, hard-pressed, or glazed paper, as all these burn slowly, go out very readily, or even fail to keep alight. All paper made of soft, woody fibre, if loose and porous, should burn well, and experience soon guides the eye to select the best. Corrugated packing-paper gives a splendid blast. Being, however, very porous, it absorbs moisture readily, so make certain it is thoroughly dry. Any kind of paper almost will serve the purpose if soaked in water in which saltpetre has been dissolved—about 1oz. of saltpetre to half a gallon of water. Dry the paper thoroughly and preserve carefully. Should the solution be too strong, and the roll of paper burn too quickly, it can be cured by inserting a sheet of common brown paper, thus making the cartridge of two layers. These prepared rolls never go out, consequently the smoker is always ready in an emergency. Rotten wood, planer-shavings packed firm, rough tacking, peat, pine needles, cotton or woollen waste with a sprinkling of oil, are all suitable for fuel. Where they can be had, fustian, moleskin, and corduroy are equal to anything that can be used, and act best in the dirty, unwashed state of old, worn-out garments. Puff-ball or fungus well dried was at one time much used, but it stupefies the bees, and strong tobacco acts in much the same way. Perhaps old, worn-out quilts coated with propolis may be classed in the same category, although with a vicious lot it may come in handy. They are certainly intimidants, and subdue the bees. It is only in very extreme cases, however, that this is necessary, because it is not an intimidant, but a quietener that we want. In nine cases out of ten we simply require a controller. Bees at swarming-time are gorged with honey. A puff or two of smoke gently wafted along the frames sends the bees to their cells to sip a little honey. Then, thus pacified, they are amenable to discipline, and submit to be overruled by their owner's tender and gentle handling.

When handling frames, &c., the smoker must stand with the nozzle up, and it will continue to emit a steady stream of smoke, ready for an emergency. If burning too quickly when thus placed, lay it down flat, and it will burn more slowly. If turned with the point of the nozzle in the ground, or the hole shut with a small wooden plug, it will burn very slowly, and ultimately go out.

Perhaps of the various smokers on the market, those of the "Bingham" type are the best and most reliable; but then there are psendo-"Binghams" as well as real ones.—D. M. M., Banff.

ABOUT HEATHER-HONEY.

CURRENT PRICES FOR SAME.

[6870.] *Heather-honey.*—It would be interesting to have an answer to Mr. Crawshaw's question (page 417) as to the quantity of heather surplus this year. There must be very little, judging by the high prices readily obtained for any really good samples. For the benefit of others who may have any to sell, I quote prices obtained by myself for what I had to dispose of:—1-lb. sections: First grade, 1s. 6d.; second, 1s. 3d.; third, 1s. each.

It would also be well if those in a position to do so would give quotations from different parts of the country. Those having honey to sell would then have a good idea of current prices. I had 100 heather sections offered me recently from a bee-keeper in the South of England, and not knowing what to ask, wanted an offer.

Another interesting question raised by the writer of "Cappings," on page 417, is, At what elevation does the ling do best? My experience is that in this county (Cumberland) and in Northumberland what we call the lowland moors generally give the best results. As far back as 1880 I was familiar with the Northumbrian uplands, from which some of the choicest heather-honey is produced. Running parallel to the Cheviot range, and from four to six miles from the East Coast, stands that low range of hills which, beginning at Kyloe, just opposite Holy Island, stretches in an almost unbroken chain through a large part of the county. The "ling" here is very fine; indeed, I cannot remember ever seeing anything like it higher up on the Cheviot range. In Cumberland, too, we have low, isolated moors, or "fells" as they are called, on which the ling blooms more profusely, and I believe yields more honey, than that growing at higher altitudes on the mountain-sides. I have in my mind at the present moment that glorious stretch of many hundreds of acres of heather, away to the north of Penrith, ending abruptly in the hill called "Barrock," six or eight miles south of Carlisle. None of the higher mountains showed the well-known purple hue so brightly as it was seen here in September last. Apart from the yielding quality of the ling, I am of opinion that moving the bees suddenly to a high and exposed situation gives a check to their capacity for work on the ling. The nights are at that season often very chilly, and the bees located lower down and more sheltered are not likely to feel the cold so much. This being so, it naturally follows that they will work longer hours and show a better return in a given time.

Price of Extracted Honey.—Extracted clover-honey sells here at 10s. per dozen 1-lb. jars wholesale, or 1s. per lb. retail. At one shop in Carlisle I saw the other day some Californian honey on sale in 1-lb. jars at 10d. each. In San Francisco this is quoted at 6½ to 7 cents per lb., and in Liverpool 6d. to 9d. Evidently American bee-keepers are well satisfied with their markets this season. Mr. Louis Scholl says in *Gleanings*:—"It's the bee-keeper's fault if he does not realise a good return for his products this year." In view of the prices quoted above, one feels tempted to ask, What is the minimum price at which honey can be produced to show a profit over there? The cost of production must be very much less than here when in a bad season Americans can send honey to be sold in England at less than our own production.

Tested Queens.—Such queens as Mr. Woodley writes of (6862, page 414) will be the very best for size, hardiness, and prolificness; but what about breeding in the swarming propensity?—G. W. Avery, Armathwaite, S.O., October 21.

THE SEASON IN ROSS-SHIRE.

RETROSPECTIVE.

[6871.] Now that the bloom has faded from the heather and the last stand of 1907 is at an end, we must, as usual, take pen in hand to put on record the doings of the busy little bee. They tell us that in such times as these the less said about bees and bee-keeping the better. It is only too true that the profits incidental to the craft are at present à *minus* feature, but we must needs give at least a rapid review of the past season—its deplorable inception, its ups and downs, and ultimate genial ending.

Bees wintered well, and, with no lack of stores, were steadily progressive right along to early June, when several colonies had from eleven to fifteen frames of brood and eggs.

The outlook seemed rosy—supers and forage ready, bees right; but the weather was all wrong, and July was well on the way ere a change for the better took place. The honey-flow came on with startling suddenness, was short, and productive of some surprises—not all pleasant ones by any means.

Doubled hives were supered over, eleven frames crammed with brood, and in most cases two and three racks were quickly full of bees and honey. But the real honey-flow lasted only four days, and was later on followed by a period of dearth, during which all unsealed stores were carried down below.

This was the general experience in the district, the percentage of saleable honey being something like one section per hive, there being a large crop of worked-out combs—valuable assets, doubtless, so far as future use is concerned, but very unsatisfactory to those of us who want all that is best concentrated into the "now" of life. While some of my stocks gave very little saleable surplus, others did fairly well, more especially Italians and hybrids of same; in fact, a colony of "White Star" hybrids gave the best results of any.

In this case the queen, having filled thirteen frames with brood, was shut down on empty combs and foundations *à la* Alexander. With a total lack of income the foundation was not even touched, and brood-rearing being thus confined within narrow limits, the consuming element was a negligible factor as compared with the

enormous force of gatherers that was ready when the honey-flow came.

In four days the upper eleven-frame story was filled and partly sealed, the queen crowded out below, and the swarming fever fairly under way. Anticipating it by moving the lot to a new site was a job I should not like to try again. Carrying a couple of brood-boxes heavy with honey, and full inside and out of stinging things, would necessitate the man behind the "smoker" being blessed with more than the average proportion of both muscle and nerve. However, the shifting answered every purpose. The removed portion gave up all thoughts of swarming, and finished off its super in first-class style; while the enormous force of flying bees returning to the old stand worked with all the vigour of a swarm, and gave more surplus than some of my established stocks.

In brief, the above colony was in just the right condition to make the best of a short and sharp honey-flow, storing heavily and consuming little, while others, with double the amount of brood demanding attention, were doing the exact opposite. See the point now, Mr. Crawshaw?

I might enlarge on the season's disappointments—the break in the weather that cut short the July honey-gathering, the heartrending experiences throughout August, when powerful colonies were idle and starving for lack of sunshine. But are not these things already written in the chronicles of the B.B.J.?

Enough that September atoned for the shortcomings of its predecessor, permitting the little workers to lay up golden treasure from the bonnie Highland heather, and so ensure success in days to come.—J. M. Ellis, Ussie Valley, October 21.

NOTES ON THE PAST SEASON.

HONEY DAMAGED IN THE EXTRACTOR.

[6872.] Now that the busy time for bee-keepers has passed away, and the bees are packed up warmly and well stored, we have an opportunity of surveying the past season, and in so doing one thing in particular has suggested itself to me, viz., whether it would not be advisable to have the insides of our honey extractors, ripeners, and any other receptacle for holding honey enamelled white. It appears to me that, no matter how careful and clean one is in extracting honey, it has a metallic flavour that is more or less objectionable. And I may say one good customer of mine has recently complained of this fault. Of course, some will say that the extractor was not properly cleaned, but this is not correct; my machine is always thoroughly cleaned with boiling water and soap, and then wiped dry and polished with a dry cloth before using. I am of opinion that the tin acts on the honey, as others besides myself must have noticed that if a small quantity of honey is left in the extractor for a few days it will be almost black in colour when removed. This does not happen with honey left in a glass or earthenware receptacle; it appears certain that the discoloration is due to the action of the metal on the honey. As an experiment, I am thinking of enamelling my extractor with white enamel paint, such as is used for baths, applying first two coats of ordinary paint. Before doing so, however, I should be glad to know, first, whether any of your readers have tried it, and with what result. Second, whether it would not be possible to make the cylinder of the extractor of wooden staves—similar to a barrel. This—if practicable—would overcome the difficulty I have mentioned. —A. Wakerell, Croydon.

[The trouble of which our correspondent complains is due not to the action of "tin" on the honey, as supposed, but is caused by the extractor being made from inferior tin-plates. The acid in honey does not affect *tin* at all, but if the plates (*i.e.*, iron plates covered with a coating of pure tin) are of inferior quality there is very little tin on them, and the honey suffers in consequence. If good tin-plates are used no harm will follow. Wood in lieu of metal is not suitable for extractors. It absorbs honey, would be very troublesome to keep clean, and, without extreme care, is liable to set up fermentation. The enamelling process proposed appears likely to serve the intended purpose very well if properly done.—Eds.]

BEE-STINGS AND RHEUMATISM.

[6873.] In connection with the above subject the following instances may be of interest. The *Bee-keepers' Record* for 1886 quotes Dr. Andrew Wilson to the effect that *El Siglo Medico* relates a singular cure from La Paz, Bolivia. A woman had suffered so much from rheumatism that for six months she had hardly slept. Her right arm was so affected that it was useless. She heard of a countryman who had suffered in the same way and had been cured by the sting of a bee. She also was cured by three bee-stings, and Dr. Andrew Wilson suggests that, if the account is correct, the remedy is simply counter-irritation, and analogous to blistering.

The *Berkshire Bee-keeper* for February, 1890, also has the following:—"An American M.D. writes in *Gleanings* confirming statements that have been made by a German doctor as to the curative

effects of bee-stings in rheumatism, and also in kidney and bladder diseases. He has used the tincture of *Apis mellifica* many years, but in rheumatism prefers the sting direct. The first case he mentions was cured by eight stings. The second patient was a negro, with a swollen and painful limb. After the first application the negro exclaimed, 'Boss, that needle am pretty sharp.' After the second, 'Say, boss, that pain am getting better, but it am smarting just like the sting of a wasp.' After the tenth application perspiration broke out, and he went away saying he was free from pain, and next day there was scarcely any swelling left." I send name for reference.—G. W. B., Much Hadham, October 21.

THE CURE OF RHEUMATISM.

THE TERM "DRIVING" BEES.

[6874.] Whether bee-stings are valuable or not as a cure for rheumatism I cannot say, but unless the sufferer attended to his diet any relief given by treatment could only be temporary. For the cure of this complaint a specially-selected vegetarian dietary is essential. This will always give relief, I think, and a cure should entirely result in almost every case.

I found an old lady in Lancashire suffering so badly from this complaint that she could only hobble about with the aid of sticks. I advised her to diet herself, and within fourteen days she was walking down to market without sticks. To give full directions for cure in these pages would be out of place, but sufferers can get it free by writing to the medical editor of the *Weekly Times and Echo*, or to the secretary of the Vegetarian Society, Manchester. Most up-to-date doctors will endorse the diet cure for this disease. Nature treatment for all diseases gives the best results, and will in time be the standard treatment.

As was stated in the editorial footnote to my communication on "Bee-driving" (6866, page 416), your inference regarding the term "driving" is no doubt quite correct, but for the sake of conciseness I think the term "driving" is better than saying "shaking and brushing." By "driving" I should mean any process by means of which bees are driven off their combs, and driven bees are bees dispossessed of their combs.

Uses of Beeswax.—I think it is not generally known that beeswax is extensively used by iron-founders, and even if it were full of all manner of germs it is just as useful for casting purposes in the foundry moulds. Beeswax should be dearer this year.—W. J. FARMER, Redruth, October 18.

Queries and Replies.

[3626.] *Insect Bee-pests in S. Africa.*—Enclosed please find postal note for new edition of the "Guide Book." I have been constantly looking in the columns of the BEE JOURNAL hoping to find some note on getting rid of undesirable insects in hives. The most troublesome in my case is a small red insect, with two claws something like a crab, when full-grown about $\frac{1}{8}$ in. across the body, which latter is round, the cross section being very thin. I have noticed them attach themselves to the hinder legs of the bees, who seem frightened of the little creature, and run about dragging it with them.

I have also occasionally come across dead bees with the abdomen eaten away inside, leaving only an empty shell.

I shall be pleased to know if there is any method of getting rid of such pests, and, if so, how to go about it.

The BEE JOURNAL, which I have taken since the beginning of the year, is extremely useful and interesting.—CHAS. W. RISHTON, Winburg, Orange River Colony, South Africa.

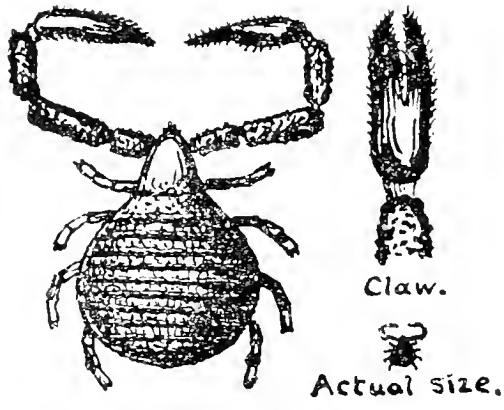
REPLY.—The bee-pest mentioned above is no doubt the same as a specimen forwarded to this office some years ago by Mr. E. T. Wells, Capetown, S.A. It was sent on to our entomological contributor, Mr. Sladen, who kindly furnished us with the following interesting information, which we reprint from our issue at the time:—

"This strange-looking creature is not, strictly speaking, an insect, but belongs to the class Arachnida (spiders, &c.). I forwarded a sketch of it to Mr. R. I. Pocock, at the British Museum, with a request for some information concerning it, to which he kindly gave the following reply:—

"'The sketch you sent this morning represents what I believe to be an undescribed species of *chelifer*. The chelifers constitute an order of Arachnida allied to spiders, scorpions, mites, &c. We have a few specimens of this species in the Museum, which came some years back from Natal. The trick of catching hold of the bee's legs is common to all the species of the group. Our English species, *C. cancroides*, for example, as well as other genera of the same group, may often be found hanging on to the legs of flies and *tipulæ*; others, again, in South America and elsewhere get under the elytra of large beetles. The reason for the habit is unknown, though perhaps it may be connected with the feeding habits of the chelifers, which

devour mites and other small insect-like animals. I should say that they would inflict no damage upon the bees. They might conceivably destroy the eggs, but I do not think it likely. If they infest the hives, it is most likely in quest of parasitic mites and ticks.'

"The sketch shown will give readers of the B.B.J. an idea of this extraordinary-looking creature. It will be seen that it



CHELIFER.

has eight legs, besides the pair of crab-like claws. The colour is reddish-brown. The chelifer is not supposed to be more harmful to bees than causing them some annoyance."

[3627.] *Advice to Beginners.*—I began bee-keeping with a swarm hived in June last, and as I intend obtaining more bees next year I should be glad of some information on the following points. First let me say I have had no surplus honey, because my bees, which—as stated above—I got as a swarm in June, would not enter the super. However, they stored 25 lb. in the brood-chamber. This leads me to ask: 1. Supposing that I had shallow-frames in the brood-chamber instead of "standard" sized ones, would not most of this honey have gone into the super? 2. It appears to be such a great advantage to have the combs in your super and brood-box alike that I should like to be informed if a shallow brood-chamber holding, say, fifteen frames would not be equally good as an ordinary body-box fitted with ten standard frames. In fact, would not the shallow chamber for brood be better in securing uniformity? 3. Suppose I went the other way about and supered with standard frames, it might be said that these would not be as efficient as shallow-frames; but, if so, what reasons can you give to account for the difference? 4. Do bees in skeps build their combs parallel to the entrance or perpendicular to it, or just haphazard? This also I should like to know, as it would appear to bear on the question of "combination" *v.* other hives, and if I went in for fifteen shallow-frames in a brood-chamber I should be inclined to put them parallel to the entrance. 5. Would a good plan of supering next year be to put a shallow-frame box on first, and when (weather permitting) this is pretty full put a box of sections under it? 6. What number of coats, and what, if any, special kind of paint do you recommend for painting hives?

I take in the B.B.J. regularly, and also the *Record*, and I have your "Guide Book." I find these all very interesting and valuable.—J. A. Uttley, Bowdon, Cheshire, October 17.

Reply.—We are at all times glad to do our best in helping beginners so far as regards smoothing over the difficulties which must beset those who are altogether inexperienced in the craft. But we must perforce draw the line when our correspondent asks us to give detailed reasons why methods suggested by himself should not be more advantageous than those recommended by ourselves, and regarded as orthodox by bee-keepers generally. In other words, it would be going over ground already traversed by ourselves and others for the rather unnecessary purpose of proving what has already been made clear. Every beginner—editors not excepted—who starts in earnest with bees fancies he can see improvements in the methods practised at the time (we did), and labours hard, only to find that experience means knowledge, and that theory does not always conform with practice. Therefore, we trust Mr. Uttley will accept in good part our remarks as covering most of his queries. We will be glad to have results for publication later on of any trials he makes in improving on known methods. For the rest, we may say, in reply to the following of his queries: 1. Your honey is better stored where it is as food for winter. 4. Combs in skeps usually run from front to back of entrance. 6. Three or four coats of good lead paint are sufficient.

[3628.] *Candy-making.*—1. I have pleasure in sending you a small piece of candy (medicated), and will be obliged for your opinion on same as a bee-food. Each of my three stocks is fairly well supplied with sealed stores, but I propose giving each a box of this candy to make all secure. One stock is on ten frames, and now has 25 lb. or 30 lb. of stores; another is on eight frames, with about the same weight of stores; while the third (an artificial swarm made up on August 13) is on four frames and has about 10 lb. of food. 2. Am I right in giving candy under these respective conditions? With regard to the weak hive, the queen, strange to say, was not fertilised until

the third week of September, as it was only on September 27 I found the first eggs. On an examination since made I found sealed worker-brood, so may now feel certain the queen is fertilised. 3. Is it not an unusual thing for a queen to be mated so late in the season? I may also say this queen was out flying around the hive on August 27, but from what I saw that day as to her treatment by the workers I concluded she was not then fertilised.

Some time ago I sent you a sample of my honey for your opinion, and you gave me such a favourable report on same (page 359, present volume, under initials of "R. S. M., Strabane") that I decided to enter same for competition at a local show, and I am very pleased to inform you that I was fortunate enough to secure first prize for my exhibit. This is the first season I have had honey, and I need hardly tell you that my success has given me great satisfaction, the more so because up to this year I have been most unfortunate. Thanking you in anticipation for the favour of your reply, under my own initials, in your valued B.B.J.—R. S. M., Strabane, October 17.

REPLY.—1. The candy sent is good and quite suitable for bee-food. 2. The first two stocks mentioned have ample stores, and need no candy; the weak lot, however, should have a 4-lb. cake, and may require more in early spring. 3. Queen-mating so late in September is very unusual. We are pleased to hear of your success in showing.

Echoes from the Hives.

St. Mary's Abbey, Buckfastleigh, Devon, October 12.—The past honey season has been the worst we have had for a good many years, our total take only amounting to 800 lb. from forty hives; and from this a discount has still to be made, for a good number of our stocks put all their honey in the supers, so that we have had to feed heavily. The Italians have done nothing for us. The hybrid Carniolans proved to be our best workers this year.—BR. COLOMBAN, O.S.B.

Notices to Correspondents.

QUERCOS (Birmingham).—*Joining County Association.*—The hon. secretaries of the Warwickshire and Worcestershire Associations respectively are: S. Noble Bower, Knowle, and J. P. Phillips, Spetchley, Worcester, in the order named.

A DISTRESSED BEE-KEEPER (Belfast).—*Candy-making.*—As you are "a bee-keeper of twenty years' standing and an old reader of our journals and books," we should be sorry to think that an error in the new edition of the "Guide Book" had led you astray in the recent attempt to make a large quantity of candy from Bro. Colomban's recipe on page 195. There is, however, no "error"—as you suppose—in the directions there given, and if carried out carefully in every particular we can guarantee the result will be a candy of the best quality in all respects. So numerous have been the testimonials received at the B.B.J. office (accompanied by samples) that its usefulness has been made plain to many who had failed with the recipes given in earlier editions of the book, that all others have been eliminated. If you preserve the B.B.J. for reference, please refer to the letter in our issue for November 16, 1905, and to those on page 464 in following issue. These will serve to make clear where you have failed in the recent effort.

W. S. (Hamilton, N.B.).—*Re-queening in October.*—If carefully done, and full directions for introduction are sent by the seller of queens, they may be safely introduced this month, but no time be lost in operating.

S. R. (N.B.).—*Re-queening Stocks.*—Bearing in mind your northerly location, we should for preference choose either hybrid queens or English blacks, rather than go to the expense of the other varieties named. You might try a single choice queen of a high-class kind as an experiment, then make a final selection of the particular variety for re-queening all your stocks with.

Honey Sample.

J. W. V. (Portinscale).—Your sample (almost wholly from heather), save for being rather lacking in consistency, is very fair in quality, and quite suitable for table use.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

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FOR SALE, in bulk or jars, several cwts. good Honey; sample, 2d.—Particulars from "W.," "Bee Journal" Office.

CHOICE MIXED WALLFLOWERS, 1s. 6d. 100; Sweetwilliams, 6d. doz.; Sage, 6d. doz.; free. Honey wanted.—BAIL, 95, Sussex-road, Watford. d 1

100 STOCK APIARY (going concern) FOR SALE, owner going abroad.—Particulars forwarded.—APIARY, c/o "Bee Journal." d 5

FOR SALE, about 1 cwt. of pure Cornish Honey. What offers?—A. L. PERRING, Polstrong, Camborne. c 98

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

CONVERSAZIONE.

(*Concluded from page* 424.)

In introducing for consideration the next subject on the agenda, the Chairman read a letter from Mr. Alder, secretary of the Essex and Suffolk Association, proposing: "That the B.B.K.A. should adopt and issue a British honey label for sale to affiliated bee-keepers' associations." The question was whether it would be advisable for the B.B.K.A. to issue a label at all, and if so, in what way they could best avoid clashing with county associations which had their own labels. Those, it seemed to him, were the only two points they could discuss. He thought there was no doubt that a label of any kind issued by the B.B.K.A. would augment the sale of British honey. It was certainly desirable that genuine British honey should be hall-marked, considering the tons of foreign stuff which were imported and labelled as though they were home-grown products, and that, too, when some of it was hardly eatable.

Mr. Salmon thought Mr. Alder's idea was that the parent body should approach all affiliated associations, and ascertain whether they would agree to take the former's label if it were issued; and, upon consent being given, to decide on the issue of it after a certain date sufficiently distant to allow of the county associations using up all their own labels in the meantime. Some would not agree, no doubt, but the first step would be to find out the views of the county associations on the project. In order to guarantee that these labels were only put on genuine English honey, would it not be possible to arrange with the "Confectioners, Grocers, and Allied Trades" that there should be a central depôt through which all associations should sell their honey, and from which only honey with the B.B.K.A. label could be obtained?

The Chairman thought the question of a central depôt was a large and difficult one, as well as quite distinct from that of labels. Besides, the scheme had already been tried without success. A company was formed some years ago with a large capital and managed by directors of the highest standing; but after full trial it was found that bee-keepers, as a rule, sold their good honey to their local customers, while sending their inferior produce to the depôt for disposal. That obviously meant failure, and the shareholders suffered in due course.

Mr. Carr said he remembered well the vicissitudes of the "British Honey Company," and he might mention that Miss Gayton, who was present among them, was one of the last honey-producers to supply the depôt with high-class honey, and her consignments always were sold; but when she heard that her honey was being mixed up at Columbia Market with all sorts and kinds of honey that came there she promptly decided to sell it all at home. Unfortunately it was necessary that the produce sent for disposal should be mixed, because, as a rule, it had to be sold in bulk. After the experience of the "British Honey Company" years ago it was almost a hopeless task to expect any of the foremost apiculturists of to-day to start a project on similar lines. Nevertheless he thought there would be little or no difficulty in getting rid of any amount of home-grown British honey to the large merchants if a yearly supply could be guaranteed. The best plan, however, so far as regards labels, in his opinion was to leave the matter in the hands of the county associations at present, or to anyone who chose to have a label of his own. Mr. Pugh was well versed in this subject, and he would perhaps explain. It was not a costly matter to get labels; there were plenty of printers who would supply labels at a cheap rate. His (Mr. Pugh's) association had ordered from 10,000 to 20,000 at a time.

General Sir Stanley Edwardes thought the question of selling honey to the best advantage must be kept quite separate from that of labels. The latter, he took it, were certificates, whether issued by the parent association or its branches, which guaranteed the produce advertised thereby as British honey. An important consideration also was that such honey could be traced to the apiary from which it emanated. Although he believed that county associations would be loth to part with their own provincial labels, those counties which had no association would, he thought, like to have a label from the B.B.K.A. He used to supply the Army and Navy Stores with honey in bulk, and on one occasion, upon entering the room where was accumulated all the honey received from different customers, he found (just as Mr. Carr had stated) that their plan was to mix it all up, and then sell it in glass jars with the Army and Navy Stores label thereon. That would not meet with the approval of the Kent County Association. They had a label of their own, on which was a number, and a notice to the effect that if anyone disputed the source from which the honey came they could write to the secretary, quoting the number, and he would at once investigate the complaint. After the experience stated above, his (Sir Stanley's) business connection with the Stores ended by his saying, "I cannot supply

you with honey unless you accept my county label." Later on, however, he sent them honey in his own labelled jars; in fact, he established a market in what was denominated "White Horse Honey," and obtained a good price for it every year, and that was kept up for a long period. One year, however, at the beginning of the season, he was asked when they were to have some of his honey, and on replying that his stock was rather short that year, and he could not promise much, the official said, "But you must supply us with some, for we have sold six or eight dozen of it in advance." This order was, of course, met; but unfortunately their county association came to an end, and, not being able to get any more labels, his market was lost in consequence. He would be only too glad of a B.B.K.A. label certifying that his honey was sound; but if the efforts now being made to resuscitate the Kent Association proved successful, no doubt labels would be re-issued, for, to his mind, they were invaluable to members of the association, as well as to the buyer.

The Chairman admitted the importance of the matter, and said there must also be a large number of bee-keepers located in places where there was no county B.K.A., as well as members of the parent society who were not members of any local branch. To such bee-keepers a label from the parent association must be of value, he thought, and the meeting would like to hear the opinions of those present.

A gentleman spoke of his experience in buying in the provinces honey which professed to be British, but which he believed was not gathered in England. He was trying to obtain a specimen for analysis. He was decidedly in favour of the issue of a label.

Mr. Herrod and another speaker pointed out that "British" honey might come from the Colonies; in fact, there was a firm whose produce was gathered in Jamaica, and who claimed to be entitled to call it "British."

Mr. Pugh considered a statement like that as *generalising* rather too much. On the other hand, he liked these things localised as far as possible, and was of opinion that the counties' own labels had the best chance of success; better than anything that could be decided on in London. In Notts, when a person applied for labels, he had to fill up a form, and practically undertake to supply nothing but good honey, while being able to trace the source from which the same was derived. They in Notts had by this means built up a good sale for all local honey, and were anxious that that sold in their county should be the produce of that county alone, so far as it was possible to keep it so. He thought the B.B.K.A. must be careful not to infringe what he might call the vested interests of the local branches. Anything that had a tendency to interfere with local trade was looked on with a jealous eye. Fifty per cent. profit was made on the labels, and it was considered that the purchasers received their money's worth in the better sale of their honey. The labels cost about 5d. per hundred, and were retailed for 10d. or 1s.; but obviously a deal of work in connection with this matter fell on the secretary. He did not think the members of the Notts B.K.A. would desire a change.

A gentleman asked if it would not be an improvement if the label bore the words "Pure English Honey."

Mr. Hill (Derby) was greatly interested in the question of labels. He had recommended that Derbyshire should have a label of its own, and he agreed with much that Mr. Pugh had said. But in his own case he had found that a name did better with the public than a county label, his customers having probably become used to the honey produced in his apiary. He sympathised with Sir Stanley Edwardes, but thought it was a pity that gentleman had not used a label of his own. He could not recommend the establishment of a central authority, being of opinion that each individual bee-keeper should work for himself. A good deal had been said about a purchaser taking the number on a label, and getting the honey analysed when there was a doubt as to genuineness. Well, the theory was very good, but he had never heard of anyone having written and made a complaint.

Mr. Herrod did not advocate the adoption of a label by the central association. And as regarded county labels, he had seen honey so distinguished which he would be sorry to think came from the county in which he resided. Unfortunately, some bee-keepers were situated in counties where there was no association. He, however, preferred having a personal label, or brand, or mark. People did not bother to look about for anything other than a brand, and when any particular one became known and appreciated a market was made. He had adopted a label of the kind, and offered a reward of £50 to anyone who on analysis could find anything but English honey there.

Mr. Phillips (Worcestershire B.K.A.) had been secretary for seven years, and had had charge of the Worcestershire county labels, which were registered and bore a number in the approved fashion, and the result thereof was that he had received several letters from customers. No complaints were made, but, on the other hand, requests to be put in communica-

tion with the members who supplied the honey, of which more was wanted, and in pursuance of which he had had over and over again brought producer and consumer together.

Mr. Pugh suggested that although complaints had not been made, nevertheless the numbering and registering had no doubt acted as a deterrent against the bottling of bad honey.

The Chairman thought that where a bee-keeper had a large apiary he might perhaps successfully adopt a label of his own; but what about the small bee-keepers who could not afford any such luxury? Communications to the B.B.J. showed that such persons required some assistance in that matter, and he believed the general feeling was that a label acted as a stimulus to the sale of honey, and was a means to an end, in every way worthy of promotion by the society. He thought it would be desirable to have the opinion of the meeting, and the resolution that would be submitted was: "That the B.B.K.A. adopt and issue a British honey label for sale to affiliated bee-keepers' associations."

Mr. Carr said that after the Chairman's appropriate remarks concerning the advisability of helping small bee-keepers, he desired to mention the fact that in the catalogue of nearly every appliance dealer in the country labels were advertised for sale, which contained a space for the printing of any name that might be desired by bee-keepers.

Mr. Edwin H. Young, the secretary, pointed out that the terms of the resolution only permitted the sale of labels to affiliated associations, while part of the argument in favour of the issue of a label by the parent association was that it might be of service where no branches existed. He had seen county labels exhibited in the large shops of the West End of London, but if he bought honey there, and had cause for complaint, he would not think of writing to the local secretary about it!

The Chairman thought everyone in such a case ought to do so, for the purpose of assisting in maintaining a high standard of quality.

After the submission of an amendment "That there be no label issued," which was disallowed by the Chairman on the ground that it was not an amendment at all, but a direct negative, General Sir Stanley Edwardes, in order to make the resolution as comprehensive as possible, moved:—"That a label be issued by the B.B.K.A. to those affiliated associations who wish for it, and also to those persons who are outside county associations but who want it and ask for it."

Miss K. M. Hall seconded the motion, which was put to the meeting and declared lost, a decided majority voting against it. (The numbers were not counted.)

Mr. Carr mentioned that a letter had been received at the B.B.J. office from a gentleman in Mexico. The communication (dated June 25, 1907) was an interesting one, and appeared in the JOURNAL of August 15 and 22 last, and detailed an Englishman's experiences in that country. It was accompanied by a sample of Mexican honey, which the writer thought Mr. Cowan would like to see, and at the latter's desire he (Mr. Carr) had brought it that evening for inspection. Mr. Cowan, who had handled a great many different honeys in his time, thought this was one of the densest he had ever come across, and he (Mr. Carr) had the pleasure of passing it round for inspection, anyone being free to taste it. This honey had been gathered at an altitude of 1,400 ft. above sea-level.

Mr. Carr also exhibited a self-heating uncapping knife, so made as to allow a circulation of hot water through the blade [A full description of this knife—with illustrations—appeared in the B.B.J. of August 22 last.] Mr. Cowan hoped to have had some honey to uncap in Somersetshire, when he would have been able to test the contrivance; but the honey season there had been a complete failure, consequently there had been no opportunity of doing so.

The Secretary (Mr. Young) showed some vessels made from paper, which had been recently put on the market as receptacles for holding cream, and from all accounts were fairly solid and effective when filled. They were fitted with watertight caps, which he believed were coated inside with some preparation of milk albumen. He thought they would be of interest that evening, as it was quite possible to utilise them for conveying honey, although there was a possible danger (remote perhaps) of the wad being blown out of place during transit if fermentation of the honey was set up. They could be produced at from 30s. to 50s. per thousand, but could only be used once, while at the same time they could be packed and sent away probably with less risk than was incurred with honey-jars made of glass.

Mr. Herrod remarked that wads on glass jars would fly off occasionally through fermentation, but he had in his possession a jar in which an ordinary paper wad had been fitted in by pressure, and the honey remained as liquid to-day as when it was put in three years ago.

The Chairman thought that anything which could be done to cheapen the packing and transit of run honey was a desideratum. The paper jars in question were very light, and would diminish the ordinary cost of conveyance if they were

practicable for use with honey. All present would no doubt be glad if some members would try them, and communicate their experience through the columns of the B.B.J.

The Secretary (Mr. Young) summed up the discussion by saying that the manufacturers would not be prepared to make the jars in large quantities unless there was an undoubted demand for them. They could not supply bee-keepers casually with a few hundreds at a time. He would have to make some inquiries before suggesting any further action in the matter.

The Chairman thought the members present would be glad to send a greeting to Mr. Cowan, with an expression of their thanks to him for kindly forwarding honey, also the uncapping knife, for their inspection, and he (the Chairman) would have the pleasure of transmitting a note to that effect. (General cheers.)

Mr. Hill asked if any further researches had been made regarding black brood. It was, in his (the speaker's) opinion, not so serious as foul brood, but no doubt it required considerable dealing with before being mastered. He was not sure whether his apiary was yet quite free from this pest, and he was therefore anxious to know from anyone whether they had found a cure for the disease. He, personally, had not much information to give, but was seeking it from those who were no doubt more up to date in the matter than he.

Mr. E. Walker had had black brood in his apiary for the last two years, and had almost starved the bees to death and swarmed them artificially in treating them. He had thus cured about three-quarters of those affected. The swarming treatment was the same as for foul brood. He put them in new hives, carried them away for three miles, and fed the bees on medicated syrup: but these remedies did not cure in every instance. Whenever the disease appeared it was generally in a weak colony. All his strong colonies were free now, but whether the evil would reappear in the spring he did not know—possibly it would. His advice was, keep the colonies strong. The introduction of a young queen was also a great help, but all precautions were in vain sometimes.

The Chairman said the meeting was much indebted to Mr. Walker for the valuable information he had supplied. He (the Chairman) was under the impression that the disease was analogous to that which had been so ruinous in the Isle of Wight, but it appeared that was not so. The Board of Agriculture had a bacteriological expert working on the Isle of Wight bee-trouble at the present time, and Mr. Carr had sent specimens of diseased combs to that gentleman from time to time for examination, together with samples for transmission to scientific investigators on the Continent. It was thus hoped that a definite cure would be found, but the first thing in regard to any disease was to discover the cause before adopting a method of treatment.

Mr. Carr confirmed the Chairman's statement.

Mr. Hill's experience of black brood coincided with that of Mr. Walker. To keep only young queens and make your colonies strong were invaluable maxims. Black brood was very difficult to get rid of, although not so bad as foul brood: moreover, it did not affect the strength of the colony much. At the end of the season, when he examined one of his affected hives, he found the brood had hatched out, but the larvæ had died when almost fully developed, the remains being quite black, although there was nothing rotten or foul-smelling about them. One of his colonies being weak and badly diseased, he re-queened it, taking away one or two of the worst combs. Upon visiting it again, after a short honey-flow, he found the bees had cleared out every diseased cell. Some stocks in his apiary had never had it. The ordinary remedies used for foul brood were not successful in the case of black brood, and he sincerely hoped the Government official would soon be able to announce a definite cure.

The Chairman thought the discussion that evening had been interesting as well as enlightening, and after a vote of thanks to him had been cordially voted, the proceedings came to an end.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[6875.] The finer weather of the past few days, after the recent heavy rains, has given the bees a final sip of honey from the ivy-blossom. A few years ago this latest of the year's bee-forage was plentiful on the old, high hawthorn hedges in many places, and, given a few days' fine, warm weather, our bees worked busily on it gathering in their last

little harvest. But this is all changed nowadays, and the ivy in our hedgerows has disappeared.

"Driving" Bees from Frame-hives.—It will be interesting if Mr. Farmer would kindly tell us why he has all his bees driven from their combs in the autumn. Surely his whole apiary cannot be infected with foul brood! Again, what does he do with the bees? Are they returned to the hive and contents if, on examination, the same are found free from disease; and does he put the bees from infected hives on foundation only prior to feeding them up for winter? Surely he must join several lots of bees together in order to make them strong enough to build out combs from foundation in October! I gather from Mr. Farmer's letter that Messrs. Stapleton and Pascoe completed the work detailed on October 17. This must point to it being done early in October, at a time when bees in this district have almost ceased to gather pollen; and so I ask, Is artificial pollen given, and how? Again, may I ask, Are all the hives which are being used for building up stocks with the driven bees disinfected?

Thick Combs in Supers.—I well remember the stir made in your columns some time ago in favour of thick combs in supers, and was induced to give them a trial. The method with me had its advantages and its faults. I could extract a few pounds more of honey in a given time, but the honey from the thick combs was not so well ripened as that from the thinner combs. I then tried frames fitted alternately with wide and narrow "ends." This secured me some good fat combs easy to handle and uncap, but even in these the honey was not quite so good in consistency as in the narrow frame.

Utilising Queens.—It looks very tempting to read Mr. Pratt's note (6868, page 417). Granted that these multiple queens are in one hive, how long, I ask, can they be left with safety? Do they mate from this hive, and each take up her maternal duties in it till orders come in for dollar queens, when they can be packed and sent to buyers, as required? If this can be done with safety, a big stride forward has been made across the Atlantic. —W. Woodley, Beedon, Newbury.

MY FIRST SWARM.

A BEGINNER'S REPORT.

[6876.] In March of the present year I bought a modern frame-hive and a strong stock of bees; the first I had ever possessed. On May 23 word was brought me of a swarm having settled on a willow-tree overhanging a pond. I had scarcely ever seen a swarm before, and, therefore, it was with something like fear and trembling that I took steps to secure this one, my nervousness not being lessened by the presence of onlookers who calmly smoked their pipes while I "went for" the bees, which had clustered on an almost inaccessible side of the tree. I brushed only a part of the bees into a skep, for, my glove having fallen into the water at the first attempt, my hand received such warm attention from the bees that I was fain to beat a hasty retreat, accentuated, moreover, by a burning, fiery sensation in my head from the same cause. However, at the second attempt I secured most of the remaining bees in another skep, and after a time, when the stragglers had gone in, my wife and I took them home, each of us carrying a skep. It was exhilarating to see the courage with which my decidedly "better half" carried a skep of bees for the first time. Never having seen a swarm hived before, I decided to shake the bees of my lot on top of the frames, which I did, and purposed hiving my wife's lot by throwing them out on the board in front of the hive; but the skep which my good wife had carried with such dauntless valour was found to contain not a single bee! They had followed their natural inclination, which led them out of that skep into the one where their queen was.

Well, I started the bees to work on full sheets of foundation, two of which were drawn out, and contained perhaps 4 lb. of honey. Two days later I examined them and found two sheets of foundation nicely built out. These bees worked well, and despite the bad weather I took from them about 24 lb. of surplus comb-honey in sections, and they had, moreover, a nice weight of stores. The stock referred to at the beginning gave two swarms, which I did not return, and about 27 lb. surplus of comb-honey (sections), but they had only a small weight of stores.

Now it happened that while my wife was awaiting my return to the swarm on the willow, she observed some bees leaving a hole up in an oak-tree, and these on examination proved to be a wild stock; possibly that from which the profitable swarm had issued. This stock I smoked out, and they alighted on a sycamore, a truly beautiful sight to look at, and a rare heavy weight, too, they were. These I put in a flat-topped skep with a super on, and they yielded only a few sections, having of course had no foundation to help them on. I also had about 8 lb. of surplus from the swarm that first left the frame-hive, and which I housed in a skep with a super, so I consider, with nearly 60 lb. of honey and a stray swarm which I had taken and sold for 7s. 6d., I have been fairly fortunate for a beginner. I also drove three lots of condemned bees, for which I paid the owner 2s. These I united, and whereas last year at this time I had no bees and

scarcely any interest in them, I have now six stocks, and covet yet more. Wishing the Editors and the B.B.J. all prosperity, and hoping these illiterate remarks will interest some, I enclose name and address and sign—BOCKING, October 16.

AT THE B.B.K.A. CONVERSAZIONE.

[6877.] *The Question of Black Brood.*—I greatly regret that the above question, raised by Mr. Hill, and discussion resulting therefrom was not touched upon a little earlier in the evening at the conversazione of the B.B.K.A., as I might have been able to join in the discussion; but I had to leave after Mr. Walker (who followed Mr. Hill) sat down, with only just time to catch the last train home. Mr. Walker must not run away with the idea that black brood does not exist in other places outside his own apiary. I have a case of the same disease among my own bees, and I understand from our Essex county expert that he has come across several cases of black brood in the course of his autumn tour this season. In my case the disease is rather a mild attack—a cell here and there affected in one or two combs. The stock attacked is a fairly strong one, and I have fed the bees with honey and medicated syrup mixed (the said mixing was done without my knowledge till I came to use it), and shall soon pack the hive down for winter. If I find that the disease still exists and has made headway next spring, I shall very promptly give the stock a dose of sulphur, and burn the lot at once. I understand from the "Guide Book" that the disease is very infectious and virulent if allowed to get a footing, and will cause great havoc. This being so, and as I have suffered losses from foul brood last year, I will have "none of it," but root it out of my apiary. Mr. Walker mentioned having "cured three-fourths of his stocks attacked by black brood, but not the whole." May I be allowed to ask, If he was able to cure three-fourths of the whole, why did he fail in curing the lot, and what has become of the remainder? Perhaps our friend may be able to enlighten others along with myself on that point. Personally, I should also like to know what the treatment was that succeeded with him, so that I may be able to cure my solitary case. Treatment is, of course, out of the question this year.

Difficulties of the Present Season.—I was very much interested when Mr. Carr handed round the comb—devoid of honey and brood—that he had received from a correspondent of the B.B.J. who had lost eight stocks of bees from starvation this season. In my opinion it was a case of sheer neglect and inability to properly judge of the results of the past season.

I very carefully noted the variation in the season right through the recent summer, and by putting two and two together I came to the conclusion early in the season that in all probability I should have to feed the bees heavily this autumn, which turned out to be the case. Early in September I made another careful examination of all my twelve stocks after the expert's visit in early August, and found only one comb that was full of honey both sides down to the bottom among the lot; so I set to at once and fed up rapidly, and have now nearly finished, but the bees take the food down very slowly. Would it be wrong if I poured the syrup into, say, three or four combs, and let the bees seal them over at once, then pack down for winter with a cake of candy overhead on each stock? [Don't give any more syrup.—EDS.]

I think if Mr. Carr's correspondent had kept his weather eye open and done as I did in very similar circumstances (as detailed above) he would still have those eight defunct colonies alive and well.

I note one good result of the wet season and fine warm weather last month; that the clover leys of this year are in an excellent condition, and give great promise of an abundant crop of white clover next year, weather permitting, of course. I have fourteen or fifteen acres of white clover within 500 yards of my hives—four and a half acres of mine and ten of my neighbour's—in A1 condition, from which I trust to reap an excellent harvest of honey next season. Sainfoin and lucerne also look strong and healthy "bottoms."—EAST SAXON, Essex.

SMOKERS AND SMOKE.

[6878.] I was very pleased to see in your last issue that your contributor "D. M. M." had taken up the subject of smokers, seeing that there are so many bad smokers on the market to-day. The most common faults are: 1. The bellows which have no value, without which they can never work well. 2. The bellows are only covered with a sort of leather-cloth (which will only stand about one shower of rain), instead of leather. In fact, I have never seen one of this sort yet that has not had some of the composition rubbed off, leaving the fabric bare, thus allowing the air to escape where this occurs. 3. No pipe to convey the draught from bellows directly into the fire-box, thus wasting energy. 4. The spring too strong. I have two before me as I write; one requires 11½ lb. to close it, while the other only requires 3 lb. 2 oz. 5. No guard against burning the bee-keeper. 6. No grating to prevent burning the bees. I do not wonder at so many giving up bee-keeping in disgust, having been

trapped with pseudo-"Bingham" smokers. The question arises, But what is a true "Bingham"? I think that the B.B.K.A. should settle the point by having a standard "Bingham" smoker. This, I think, would give the honest man protection, for the market is apt to become so that it is impossible to be honest and live.

I agree with "D. M. M." that "a good smoker is a *sine quâ non* in successful bee-keeping," and therefore *Si vis pacem para bellum*.—H. POTTER, New Brompton, Kent, October 28.

[It seems to us an easy matter for anyone ordering a bee-smoker to make it a condition that only a *genuine* "Bingham" will be accepted. We know that several appliance makers stock the genuine article. —EDS.]

PRICES OF HONEY IN GLASGOW.

[6879.] For the benefit of your readers I give below some prices of honey. They are quoted by the four retailers in the centre of Glasgow, who, I think, sell most honey in the place:—

No. 1. Heather-honey, in sections or jars, 1s. 6d. each.

No. 2. Heather-sections, 2s.; 1-lb. jars, 1s. 6d. Flower-honey, sections, 1s. 6d.

No. 3. Heather-sections, 1s. 4d. Flower-honey, 1-lb. jars, 1s.

No 4. Heather-sections, 1s. 4d.; 1-lb. jars, 1s. 6d. Flower-honey, sections, 1s. 2d.; 1-lb. jars, 1s. 6d.

Some of the suburban druggists hereabout sell honey in wide-mouthed earthenware jars at 1s. each. These are all put out by some wholesale firm, judging by the similarity of appearance.—JAMES WILLIAMSON, Glasgow, October 28.

BEE-NOTES FROM CORNWALL.

[6880.] *Weight of Wax from Combs.*—Desiring to know exactly how much wax a comb of standard-frame size would yield, I have just rendered into wax thirty such combs, taken from the first three body-boxes to hand. The majority of the combs had been bred in for two seasons, and had originally been fitted up in each case with a full sheet of foundation, eight sheets to the pound, so that I used a total of 3 lb. 12 oz. of wax foundation for the whole thirty frames. The wax I obtained from them weighed 3 lb. 15 oz., or $2\frac{1}{10}$ oz. per comb. This exact experiment should be of service to bee-keepers generally. Older combs could not, of course, be expected to yield so much. I got out every scrap of wax, so far as I could observe.

Five Minutes' Cure for Foul Brood.—Mr. Woodley, in his "Notes by the Way" (October 17, page 414), mentions the cure of foul brood by allowing the bees to transfer from old combs to new, as related in *Gleanings* of September 15. Those readers who possess back volumes of the B.B.J. will find that I published this mode of treatment about two or three years ago in its pages, having discovered it for myself. It is very effective in slight cases; indeed, in all cases where the disease is taken in time its ravages need not be feared by any bee-keeper. It yields to hygienic treatment very considerably, so much so that all loss may be avoided. Such is my honest statement of my personal experience.—W. J. FARMER, Redruth.

BEESWAX FOR IRONFOUNDERS.

[6881.] Referring to the statement made by Mr. Farmer (6874, page 428), may I be allowed to say that very little beeswax is now used by ironfounders? At one time all my beeswax went for this work; indeed, seven or eight years ago ironfounders told me they would take all I had, but now they are using paraffin (paraffin-wax no doubt was meant), which was much cheaper, and answered their purpose just as well.—J. PEARMAN, Derby, October 26.

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

"Balling" Queens.—This mysterious temporary aberration of intellect on the part of a colony of bees has been often discussed. Every spring hundreds of hives are found queenless from this suicidal proceeding, generally caused by unseasonable manipulations, rough or noisy handling of frames, or too long an exposure of brood in an inclement atmosphere. A leaderette in the *American Bee Journal* commenting on this touches on an important feature of the case:—"Perhaps the excitement of opening the hive is the cause of 'balling,' and if the excitement is kept up by the bee-keeper trying to free the queen her death may result. If the hive is quickly closed when a queen is found 'balled' the bees will of themselves generally release her without doing any harm. So don't try to release the queen from the 'ball,' but close the hive, and don't open it again that day." I am not certain but the advice here given is as good as any. Apparently the bees, smitten by a great fear for the loss of their mother-bee, hug her closely with the idea of preserving her from all harm. Their very love proves her and their undoing, because the cluster becomes so close and dense that they absolutely smother her, thus fairly "killing her with kindness." Peace, perfect peace would, I deem, be

the best "cure," but truth compels me to say that it is not always successful. I have known doctors advise such harsh measures as stifling smoke, a duck in cold water, and a rough tumbling about of the "ball."

A Railing Accusation.—"The bee is a fool, with defective sight. It is not so nominated in the text-books, but the fact remains." This is the only extract worth reproducing from the *American Bee-keeper*, and I need scarcely say that I don't endorse it. Writing it down calls to mind a familiar quotation, "A little knowledge is a dangerous thing."

A Useful Hint.—"As bee-escapes are quite expensive, we use a plan with them that I have never seen mentioned in print:—Put an escape under a finished super, preferably on a colony not so strong as desirable, and on this pile finished supers from four to six colonies, after first driving out a large part of the bees with the smoker. One escape does the work of six or more, and does it just as well." This is from the *Review*, as is also the following:—

Bee-veils.—"My new veil has a front or window of celluloid. Glass has been tried for this purpose, but the difficulty is that the breath condenses on the glass. The thin celluloid should behave differently." I should think so too. Some might try it. Another American bee-veil lately turned out (the "Advanced") is made up of French tulle veiling cotton with silk face, with a cord fastening the lower end. Its inventor says:—"You are as cool and comfortable and as secure from sting, with your movements as free and unrestricted, as if you were on the seashore with nothing of the kind over your head." I sigh for just such a veil. At present I use only a piece of black silk net, elastic at top and loose below. It is very good, but scarcely all that the *advanced* one claims to be.

Some Don'ts.—Mr. Alexander has been giving a large number of these in American bee-papers, and I extract a few without comment:—

"Don't allow your bees to acquire the habit of robbing. Hundreds of weak stocks are lost annually by this provoking habit, which is frequently caused by the neglect of the owner."

"Don't be contented in keeping bees that are not good honey-gatherers. This is the principal thing we keep bees for, so supersede defective queens."

"Don't set your bees in a place where they will annoy the public. Either keep them where they will not disturb anyone, or sell them and go out of the business."

"Don't allow drone-comb in any hive except one or two, and see that these hives have choice breeding queens."

"Don't think the bees will give you good results in either increase or surplus honey if you fail to do your part."

"Don't bother with 'starters,' but put in full sheets, and prevent your bees building that worst nuisance of the apiary—namely, drone-comb."

"Don't neglect to prepare your bees early in the season for winter; they will winter with less loss if they have a chance to quiet down before winter comes."

"Don't try to winter weak colonies. A weak colony in the fall is usually a dead one in the spring."

"Don't try to winter a queen the third year. I am sure it does not pay."

A Plurality of Queens.—It is only quite recently that any bee-keeper was known to assert that two or more queens can exist in one hive, laying peacefully side by side. The subject is an exceedingly interesting one, and if successfully proved to be feasible it may revolutionise bee-keeping. *Gleanings* has two articles on the subject. Mr. Alexander—a high authority—positively asserts that he found five queens in one hive quietly performing their functions without any feeling of rivalry. Further, he gives a method by which he asserts several queens may successfully be given to any hive, and you will not lose one queen in a hundred. Mr. J. E. Chambers adopts the opposite view, and maintains that although he has been using more than one queen in a hive to build up, it must be under proper safeguards—something, I take it, like our "Wells" dummy to divide the two domains. Mr. Alexander's claims he sets aside as "impracticable, if not impossible."

Now, what I would have our B.B.J. readers do is experiment and find out if this strange assertion is true. Can we make it possible and practicable to work up our colonies with the aid of a plurality of queens in order that they may be ready for some special flow? If so, then I consider we shall work a revolution in apiculture.

Queries and Replies.

[3629.] *Utilising Surplus Queens.*—Having a surplus queen, I am anxious to keep it over the winter, as very often some hives become queenless in early spring, and the queen in question would then come in useful, but am at a loss how to proceed. I have thought of trying the following plan, viz.:—Take a dummy-board, and keep it $\frac{1}{4}$ in. from the hive-floor; also cut a hole in it about 6 in. by 2 in. within a reasonable distance of the top, and cover this hole on both sides with queen-excluding zinc. This would

provide a space between the excluder-zinc the width of the dummy-board, which would prevent the two queens getting together, unless they become so much reduced in size in winter that they can go through the excluder-zinc. I therefore ask: Would there be any fear of the bees leaving one of the queens to perish, or would they be likely to occupy only one side of this division-board and leave the other queen to perish? I would put them on light frames—that is, four frames on either side—which I think ought to do till April.

In looking through a hive to-day, a swarm that came off in the latter part of July, I was astonished to find drone-grubs in some of the worker-cells, but no worker-grubs. When this swarm was hived my son was standing beside me, and while standing I picked a drone from his shoulder, which showed signs of having mated with a queen, and that very recently, as it was alive when I picked it up, but died immediately after I took it in my hand. Under these circumstances I made myself sure the queen was mated and that she would be fertile, hence my astonishment in finding drones in worker-cells. Will this queen be worth keeping, my opinion being she has not raised any worker-bees since she was hived? I have kept bees a few years, but have never before seen a drone that had mated with a queen. Since then, however, I have picked up another drone in a similar condition from the alighting-board of a nucleus hive. Will you kindly advise me on the enclosed questions through the B.B.J.? Name sent for reference.—Newcastle, October 23.

Reply.—If we rightly understand your plan as detailed above, it will not be likely to succeed. You would have no means of keeping the worker-bees from mixing with both queens, and one of them would probably be killed. Surplus queens should be wintered in a nucleus hive, with about as many workers as will well cover two frames.

[3630.] *The Late Kent B.K. Association.*—1. Please tell me whether the enclosed queen is an old one. She is from the first swarm I had this season, which was a very strong one, but which eventually dwindled down to seven frames, and I came to the conclusion that the queen was old. I therefore determined to unite another stock with them headed by a young queen. I did this in mid-October, but if I am not mistaken the queen I send herewith is a young one; and, if so, the bees must have raised a new one very recently, because there were no queen-cells when I last examined in August. 2. What has become of the Kent B.K. Association? I attended a meeting at Eynsford last spring, but have heard nothing more of it.—T. F. Newman, Kent.

Reply.—1. The queen sent was crushed quite flat in post beyond recognition. This nearly always happens to bees sent unprotected in an envelope. 2. We have had no information as to the result of the meeting named beyond what has appeared in our pages.

[3631.] *Do Earwigs Destroy Bees and Combs?*—On looking over a neighbour's bee-hive in the fore part of this month I found it infested with earwigs, and on removing the quilts I found between them about a hundred or more dead bees, most of them having parts of their bodies eaten away. The quilt was covered with chips of wax, so I ask:—1. Do earwigs kill and eat the bees, and also destroy the comb? 2. Is pennyroyal injurious to bees, because I see it is a good remedy for earwigs? 3. Do bees when given candy store it away in the cells for future consumption? Thanking you for a reply to the above in your valuable weekly the B.B.J.—W. K. G., Windsor Forest.

Reply.—1. Earwigs are usually included among the enemies of bees, but the harm they do is more in the way of causing uncleanliness; we never found them either destroying combs or killing and eating bees. 2. We don't know the value of pennyroyal as a preventive of earwigs, but the iron shoe shown on page 168 of the new "Guide Book" is effective in keeping them out of hives. 3. Yes.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

*** A correspondent who has good opportunities of knowing how prices are ruling in the wholesaling of home-grown honey writes to say the present wholesale prices for extracted honey in bulk are from ½d. to 1½d. per lb. Sections of even medium quality are cleared out at 12s. per dozen.

Cymro (South Wales).—*Improving the "Claustral" Hive.*—The sketch sent shows thought and ingenuity, but we do not see how the proposed "arrangement" can secure complete darkness when the "claustral" chamber is closed. This is the main point in M. Gouttefangeas's hive, and any fault in that respect means failure of the method.

We strongly advise a trial of your adaptation of the "claustral" system before incurring expense. "Registration" only applies to designs, and yours could not come under that head. We also think your "entrance reducer" is too complicated by having so many loose parts. In the "claustral" hive the alighting-board is the only movable part; it has only to be closed in order to confine the bees and opened to release them, each movement only occupying a second or two of time.

F. H. (Birmingham).—*Selecting Hives.*—If you have decided to adopt the hive named, the "original" is practically as good as any other. It might, however, be well to purchase one of each and decide by comparison between the two.

De Pontebus (Cheshire).—*Insect Nomenclature.*—The insect sent is a queen-wasp.

A. E. (Wilts).—*Refining Beeswax.*—When old combs, some containing pollen, are being melted down for extracting the wax it is usual to add a little sulphuric acid to the water in which the combs are immersed. Very old combs require more acid than cleaner ones; the average proportion may be 1 part acid to 100 of water by weight. To extract the wax, a simple way is to break the combs up, put them in a canvas bag, and immerse the bag in a boiler or vessel large enough to sink the bag below the surface of the water when weighted down. Bring the water to a boil, then let it simmer slowly for nearly an hour, taking care it does not boil over. The wax will rise to the surface of the acidulated water from its less specific gravity, and may be lifted off in a cake when cold.

B. B. W. (Sheffield).—*"One & All" Garden Books.*—The whole of these useful books (fourteen in number) may be had (price 1d. each) from the publishers, the Agricultural and Horticultural Association, Ltd., 92, Long Acre, London, W.C. The one you mention is entitled "Weather," No. 12 of the series.

A. S. Wood (Hereford).—*Honey-showing.*—Articles on the preparation of honey for the show-bench have appeared in our journals many times, besides being dealt with repeatedly by our regular contributors who are accustomed to showing. The best of possible lessons on the subject are, however, to be acquired by visiting a good show, where good honey and the best methods of staging may be seen by the learner. As for the "points" that judges favour and give marks to, that also has been fully treated of in the B.B.J. already. We trust that our correspondent will therefore see the "point" we urge him to note—viz., no means of obtaining information on preparing for the show-bench can be so useful as the sight of a good display of prize honey on the said bench.

Inquirer (Cheshire).—*Queen Cast Out in October.*—The dead queen sent is an adult, and bears every appearance of having been duly mated. Your only course is to take the chance of a fine day to inspect the combs, and endeavour to find out if the stock outside which she was found is queenless.

E. E. B. S. (Devon).—*Queen-mating in October.*—If the young queen had not mated on October 11 there could hardly be any chance of mating later this month. Even though two or three drones were in the hive, the chances of them taking wing so late in the year are very remote. It is quite possible for you to get a fertile queen for a small sum by advertising in our prepaid columns.

B. (Lewes).—*Cleaning-up Store-combs after Extracting.*—It does not follow that the brood-chamber is replete with stores because the bees did not carry down the contents of wet shallow-combs after the latter had been through the extractor. Some honey has evidently been gathered since the wet combs were put on for cleaning up, and we advise you to winter the bees with the super and its contents left on as it now stands. It has been found that bees so wintered very often come out strong and well in the following spring.

Honey Samples.

J. C. (Cambs.).—The granulated sample No. 2 is a fairly good saleable honey, with no visible sign of fermentation. No. 1 (in liquid form) is not so nice for table use, nor would it bring so good a price as the first-named.

E. S. B. (Selhurst).—We will be glad if our correspondent will furnish names of sellers when purchasing honey from advertisers in the B.B.J. It will help to facilitate matters very much if this is done.

Suspected Combs.

L. H. L. (Lanarkshire).—The larvæ in your sample are affected with "black brood."

Edot (Inverness).—One of the only two sealed cells in comb sent contained foul brood. It is not a recent outbreak.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Editorial, Notices, &c.

REVIEWS OF FOREIGN BEE-JOURNALS.

By "Nemo."

Investigation of Diseases.—Sometimes bacteriologists who are not bee-keepers have specimens of diseased combs sent to them for examination, and these are generally described as foul brood. They have no opportunity of studying the different phases of the disease, and simply give the results of their findings. It has been suggested that these scientists should work in conjunction with an expert bee-keeper, who could point out little differences which would not be observed by one not thoroughly conversant with bees. We now learn from the *Praktischer Wegweiser* that Professor Dr. Maassen, of Dahlem, has secured the assistance of Herr R. Sprockhoff, of Ludwigsruh, who has been a great help to him. The latter is superintending the experimental station in Brandenburg, and being now in close touch with Dr. Maassen, it is expected that practical work of importance in connection with bee-diseases will be the result.

Meeting of Inspectors of Apiaries.—Herr Kramer, the well-known president of the Swiss Bee-keepers' Association, writes in the *Schweitzerische Bienenzeitung* respecting this first meeting of inspectors in San Antonio, Texas. He describes the work of Dr. White, and mentions that in the virulent form which the latter calls American foul brood he found another bacillus difficult to cultivate, which he has named *Bacillus larvæ*, and that in the odourless or mild form he always found *Bacillus alvei*. Herr Kramer points out that at this meeting, according to the report sent by C. P. Dadant, no mention was made about the work of Dr. Burri or that he had found a bacillus difficult to cultivate which had already been named *Bacillus Burri* by Dr. von Buttel-Reepen. He also points out a serious discrepancy, which must be noted. According to Dr. White, *Bacillus alvei* is always present in the odourless foul brood, but Dr. Burri found this bacillus always present in the virulent, strong-smelling form. Referring to M. Dadant's mention that European foul brood has a slight acid smell, he thinks it probable that in America as well as here they have sour brood, which sometimes accompanies foul brood, although nothing was said in respect to this at the meeting. Another discrepancy is to be noted, that *Bacillus alvei* is never associated with the American microbes, whilst here both bacilli have been found in the same colony. Herr Kramer concludes by saying that "investigations of foul brood have not yet come to an end."

Experiences with the American Golden Bee.—At the great congress of bee-keepers held at Frankfort the value of these bees was thoroughly discussed. In the report of the meeting in *Praktischer Wegweiser* we read that Herr Muck, of Vienna, introduced the subject of the famous "long-tongued bees." The congress was unanimous in the opinion that these "long-tongued" bees had the shortest tongues. The conclusion of Herr Muck was that the golden bee was handsome and had a beautiful dress, but could in no way compete with the native bee. In the discussion Herr Hensel alluded to the swindle that was taking place in the commerce in American queens. Captain Müller also said for the second time he had denounced them. Freudenstein had imported them direct from America, and was entirely in agreement with what Herr Muck had said. He further said that through the importation of these bees they had learnt the value of their own race. Wankler had long ago proved that his queens were far superior to the American. Pastor Ludwig said his experience was that breeding for colour was a detriment. This important congress concurred entirely with Herr Muck, and has placed on record its belief in the superiority of the native race for Germany.

Rheumatism and Bee-stings.—Dr. Terc, of Marburg, Austria, describes in *Steirischer Bienenvater* his experience in curing rheumatism. He has now had about thirty years' experience of applying bee-stings in cases of rheumatism, and has effected an endless number of cures. He mentions the special case of a woman whose limbs were already completely dislocated by the disease, to whom were administered 1,500 bee-stings, which resulted in a complete cure, restoring her limbs to a normal condition. Dr. Terc is of opinion that sooner or later this method of curing rheumatism by bee-stings must come into general medical practice.

Formic Acid and Foul Brood.—M. Bretagne, in the *Bulletin de la Société Romande d'Apiculture*, recommends for curing foul brood to place on the frames a strip of cloth saturated every five days with a solution of—formic acid, 2 parts; water, 2 parts; and alcohol, 1 part. He recognises three different periods of the disease. Colonies cured in the first and second periods appear to be nearly proof against further attacks, and become the most prosperous in the apiary, but they require scrupulous care. If the bee-keeper has through neglect allowed the disease to reach the third stage, the hives as well as combs and frames must be burned.

Sand-runners.—This is a curious name

for bees, but M. Dobbratz tells us in *Praktischer Wegweiser* that in Pomerania all bees that for any reason are unable to fly are called (among bee-keepers) "sand-runners." On attempting to fly the bees so afflicted drop off the alighting-board on to the ground and run about on the gravel beneath the hive until they finally die. The causes of "sand-running" are various. It may be caused by disease in the internal organs, for example, as is the case in "May disease" and dysentery, or with bees that have damaged or worn-out wings, which occurs frequently when they have been gathering pollen on corn or barley blossoms, and have in consequence rubbed their wings against the rough stalks. Another cause is said to arise from crumpled and undeveloped wings. These are supposed to be the result of the depredations of wax-moth, whose larvæ insinuate themselves into the brood-combs and tunnel from cell to cell, leaving a silky web behind them, which entangles the developing larvæ, and prevents the proper growth of the wings. The bees experience some difficulty in getting out of such cells.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BROOD DISEASES OF BEES.

[6882.] We have heard from M. Bertrand, at whose residence our M. Odier had the pleasure of making your acquaintance some years ago, that you have recently published a new edition of your excellent work "The British Bee-keeper's Guide Book," and that in it you have treated the subject of bee-diseases in the most comprehensive manner. This encourages us to take advantage of your knowledge and well-known courtesy for bringing to your notice two sorts of brood diseases which we have discovered in various apiaries of the neighbourhood, and with which we have had to contend during the last two seasons.

The less serious of these two is the one we call *mummified brood*. The characteristics of this are that, without any apparent reason, after the transformation of the larva into pupa the latter becomes covered with a sort of fungus resembling white down, hardens, shrinks, and dries into a white mass, which the bees remove with difficulty. The second disease, which may lead to disastrous results, at first sight presents certain characteristic appearances of foul brood, with these important differences: 1. That the pupæ only are attacked at the time of their transformation from larvæ to pupæ, or after this transformation when the cell containing the pupa is about to be capped over, or after it has just been completely closed. 2. There is no decaying of the brood or improper position of the larvæ in the cells.

This is how the disease proceeds. The extremity of the head generally turns black, the remainder of the body and abdomen grey; then it dries up in the cell, and does not produce any bad odour, and if the pupa is drawn out of the cell with a pin the whole of it comes out easily. The queen continues laying, the brood is scattered, and the cappings of cells are sometimes perforated, indicating that as the pupæ were diseased the capping of the cells remained unfinished. The bees seem less active than usual, and as but few bees hatch out the colony dwindles, and sooner or later succumbs.

At the beginning of May, 1906, we were much annoyed with this disease. Thinking that perhaps we had to do with foul brood in one of its forms, we commenced an energetic treatment with formic acid, spraying the combs, placing bottles containing the acid in the hives, putting it in the syrup (in the proportions indicated by M. Bertrand in his "Conduite du Rucher"), also saturating strips of cloth with the acid, which were placed on the frames. In spite of all this, the disease did not yield to the treatment, but as it seemed to increase we addressed ourselves to two bacteriological specialists, who had both made a special study of foul brood—Professor R. Burri, of the Polytechnicum at Zurich, and Professor Galli-Valerio, of the University, Lausanne.

After making microscopic examinations and cultures, these gentlemen pronounced the disease not to be foul brood, but probably depended upon atmospheric causes, biological or accidental. We then searched for the cause of the disease in another direction, and we think that the disease may be produced by a scarcity of pollen (resulting as a consequence of the great heat, the north wind, drought, or other cause). In fact, we have noticed that diseased colonies had not a trace of pollen, not even any old pollen, and that the disease ended and sometimes disappeared spontaneously as soon as the bees were able to collect pollen.

Last year we had a drought during all the summer, with a continuous north wind. The meadows were dried up, and there was no honey-harvest. But after

the few showers of rain which we had the bees removed the diseased brood, and the new brood immediately assumed its normal aspect. This year we observed the same thing with late swarms, which came after the first flow of nectar had ceased, and a period of drought followed. We therefore think that the brood, being insufficiently nourished, could not reach its complete development, and perished before reaching maturity.

With regard to the spreading of the disease, we have been able to prove by our experiments that combs of dead brood of the previous year from colonies that had died in consequence of the disease, introduced this spring without any disinfection, have not caused up to now any reappearance of the disease in the fifty colonies in which we have utilised them. Two colonies that we established this spring in hives fitted exclusively with combs of dead brood cleaned out the combs as they were given to them, and have not shown a single diseased cell during all the summer.

We send you in a separate parcel specimens of the mummified bees and a piece of diseased comb. The above are the particulars which we submit for your opinion, and are ready to give you any further information that you may require.—Odier and Meyer, Nyon, Switzerland.

[The first disease, correctly diagnosed as "mummified brood," is called "Steinbrut" by Germans, and has been investigated by Dr. A. Maassen, of the Imperial Biological Institute at Dahlem, Berlin. He finds it to be caused by an organism called *Aspergillus flavus*. It has been sometimes epidemic in some parts of Germany. Dr. Maassen found the organism in May, June, and July among the hairs and the respiratory organs of adult bees. Up to the present it is not known how this organism gets into the organs of the bee or into the stored pollen, in which it has been also found. Dr. Maassen thinks probably the microbe commences on the surrounding pollen in the cells, and thus spreads to the bees, but cannot say for certain without further study. Bees do not seem very susceptible to the disease, and it only shows itself when a high temperature in the hive is reached, or there is insufficient ventilation, or after long confinement of bees in the hive. If these conditions are avoided or guarded against, Dr. Maassen thinks there is no fear of the disease doing much injury. The second disease differs entirely from either type of foul brood, and although similar in some respects to "black brood," is evidently different from the description given. The comb sent, which contains only the dried remains, has every appearance of black brood, which is known to be infectious, whereas the fact that our correspondents have been able to introduce combs of dead brood into healthy hives without causing disease would tend to show that the malady they describe is not infectious. It is quite possible that a scarcity of pollen, and consequently insufficient nourishment, may be a probable cause of the disease, or at any rate contribute towards it.—Eds.]

THE QUIET SEASON.

SOME RETROSPECTIVE BEE-NOTES.

[6883.] The quiet season may now be said to have fairly begun. Bees are at rest, or should be, and we are at liberty to discuss the many interesting points brought forward during the season in the B.B.J. and other papers. We are now looking ahead, as it were, to the bee-season of 1908, and all that is likely to be of benefit to us then should be kept to the front during the winter months. All bee-keepers worthy of the name must have already laid the foundation on which next year's success can be built by making the most of the opportunity to prepare their bees for safe wintering. From Ussie Valley, in the extreme North, our cheery friend J. M. Ellis, in bidding adieu to the season of 1907, anticipates success in the season to come. Friend Farmer, from the other end of the country, informs us that his annual "drive" is over. With lightning despatch—"in the twinkling of an eye," as it were—without commotion, the apiary has been transformed from an infected area into a place altogether lovely in its purity and immunity from disease. May we congratulate brother F. and his "lightning" operators on their record-breaking performance, and may it not be necessary in 1908 to repeat it.

Startling developments are reported from the Far West, and Mr. W. E. Alexander's long-expected explanation of how to introduce any number of queens to one colony at the same time demands more than a passing notice. Briefly, his method is as follows:—The stock to which the bevy of queens is to be introduced is made queenless and broodless at one operation. The queen is placed in a travelling or introducing cage quite alone, and the eggs and brood are set over another strong colony. A pint or so of the bees are shaken into a box 5 in. or 6 in. square, with wire-netting on two sides, to prevent suffocation and allow of the bees being fed. A hole is bored in one end, to run in the queens. The hive is then half-filled with empty combs, on which the bees are allowed to cluster till sundown, the bees in the box being then removed with the queen into the house, care being taken not to place them too near each other. After five or six hours the bees in this box are placed within reach of some thin, warm honey in

such a way that they can eat their fill without daubing themselves with it. After they have gorged themselves, the box is given a little shake, and as many fertile queens as desired are run in by the hole in the end. This is closed, and the bees and queens are again placed in reach of the food till sundown. The queenless bees in the hive are now given all they will take of the same food. The cover is next removed from the box containing the queens with the attendant bees, and this is placed alongside the cluster on the combs in the hive. The hive is then closed, and the bees and queens allowed to join up quietly. They are left undisturbed till next day, when the brood-combs are returned. The whole business is thus ended.

By closely following the above plan Mr. Alexander declares "not one queen in a hundred will be lost." On first hearing of the success Mr. A. has achieved in this direction, one is apt to jump to the conclusion that this will be a very great advantage to bee-keepers in general; and I hope it may. But a little reflection shows so many difficulties in the way of its adoption that I doubt whether the method can be applied to any advantage in this country. In the first place, the bee-keeper would need to have on hand a large batch of early-raised queens, ready mated, to introduce some weeks before the honey-flow was expected to begin. Their introduction just before or during a honey-flow would militate against the storing of much surplus by the queens filling every available cell in the brood-chamber, and producing more brood than the progeny of the original queen could attend to, and at the same time fill their supers. In America the conditions are widely different from ours, as we have, as in 1907, often a honey-flow of only a few days' duration. If Mr. Alexander or any other bee-keeper can find means by which the bees can be induced to keep more than one queen in the hive over winter, the case might be very different, as then the balance of population would not be jeopardised at the critical moment, when every bee that can be spared is wanted to work in the supers.

Since the system was announced in the American papers, I have been trying to solve the difficulties connected with it, and must frankly admit with not very encouraging results. It is quite possible, I have found, to introduce several queens to a stock in more ways than one, and quite easy to keep them there so long as food is supplied with a liberal hand, or while a honey-flow is on. When the income is withdrawn all queens but one disappear, and the colony settles down to its normal condition.

Several bee-keepers report the same result in the American papers; and when once a number of queens are accepted by a colony, it is not easy to see how the method of introduction can affect the after-treatment of such queens by the bees themselves. However, Mr. A. seems sanguine of success, and we must wait the result of further experiments on his part. He says that in no case where a stock had two or more queens have such stocks ever attempted to swarm. This seems contrary to what we might expect, and this fact alone would prove the system to be a great advantage where spare queens are on hand; but to the average bee-keeper, who cannot winter his spare queens or rear them early enough, it would be too expensive as a means of swarm-prevention. The reason why stocks having more than one queen do not swarm is not apparent, but it may be that Mr. Alexander's system of introduction throws the bees into a condition so nearly resembling that of swarming that they are thereby robbed of all inclination to swarm for the season. Things might be very different if a number of queens were wintered in the hive. One cannot but think it is a waste to keep a number of queens in one brood-nest, which a single queen might keep well filled with brood. Under the system queen-rearing should be a flourishing branch of our craft, and we need never harrow our feelings by killing our old queens, as we could allow them to live as pensioners in their daughters' hive. Let us wish Mr. Alexander success in his labours.—G. W. Avery, Armathwaite, S.O., October 28.

THE FRAME QUESTION.

[6884.] May I be allowed to say a word or two on this subject? Our friend "D. M. M.," in the pages of a contemporary, throws down the gauntlet to "all comers" who are not in favour of the B.B.K.A. standard frame. I think, however, he is somewhat inconsistent, for in the *Record* of October last he writes a long article setting forth various points in favour of a still shallower frame than the standard, and anyone reading that article alone must come to the conclusion that he favours what is known here as the shallow-frame. Anyway, he seems therein to be sitting on the fence with a decided leaning towards the shallower side, and I for one am almost inclined to agree with him there, working as he does for heather-honey only. If I were a bee-man working for heather-honey only the standard frame would certainly be my deepest; but when keeping bees in a good clover or flower district I maintain that a deeper frame is best. I write after thirty years' experience of a variety of frames. I had in use a number of deep frames before the B.B.K.A. standard was decided on, and had afterwards for years

twenty or thirty stocks working, some on standards and others on deeper frames, side by side, and almost without an exception, all things being equal, I found that the deep ones came out best in spring, and therefore were ready for supering earliest, while they were not so prone to swarm as were the standard stocks. A swarm from the deep frames was quite the exception. In addition to my own apiary of from thirty to seventy stocks, I had charge of several other small apiaries, in which were odd deep-framed hives, and the result was always the same. There are considerably more bee-keepers than Mr. Huxley and myself who are in favour of a deeper frame, though many of them never express their opinions in print. I think if some of our quiet experts were sounded they would be found on our side. I know of one leading expert who is decidedly inclined to our way. No doubt the expense of new hives will deter many from trying those of different size; but it does not need a new hive—all that is required is a rim or lift, say 2 in. or 3 in. deep, to fit a standard hive, and the bottom-bars taken off the frames, a strip of worker-comb fastening on bottom of that in frames, and the change is complete. Bottom-bars can be dispensed with once in a way; the bees will fasten combs to hive-sides and bottom very little, if at all. Those who use "W. B. C." hives can try two boxes of shallow-frames, instead of the usual body-box.

I think if this is tried by some of our practical bee-keepers during next season you will have unexpected results to chronicle at end of 1908. How is it that we so often read and hear of stocks that have had supers left on all winter coming out best in spring, to their owner's surprise? I send name for reference, and sign—Robin Hood, Lancashire, October 28.

[We see no reason why any and every reader of the B.B.J. should not have full opportunity for advocating or using any size of frame or hive he or she may prefer. What we do object to is the persistence with which those who favour a frame differing from that in general use continue to write of the "standard" hive. There is no such thing in this country as a "standard" hive, and we trust there never will be, for the good reason that different districts require different-sized hives. What we are firmly convinced of is the immense advantage of a "standard" frame; the hive may be capable of holding ten frames or twenty, according to district, or the prolificness of the queen, or the preference of the bee-keeper. Nor do we question the right of anyone to make and use any size or shape of hive he may think best. Beyond this we do not care to go, except to remind our friend "Robin Hood" of the meeting of bee-keepers held in London last year, when the question was discussed at the spring Conversazione of the B.B.K.A. by an influential meeting of bee-keepers, and on the question of altering the size of the standard frame, it was unanimously decided (after full discussion) by the vote of those present, "That this meeting, feeling satisfied with the present standard frame, decides that no alteration whatever in its external measurements is advisable." If, after the long discussions in our pages, such as has appeared for many years past, no further progress can be shown than that recorded last year, it cannot be wondered at if those who, like ourselves, have tried all sizes of frames—only to become more firmly convinced of the advantage of uniformity and interchangeability as the years pass—begin to think it a waste of time to try and start a new agitation on the old and somewhat threadbare theme.—Eds.]

NOTES FROM HANTS.

[6885.] The heather referred to by me on page 383, and queried by Mr. Crawshaw, is the "ling." There is a good sprinkling of the bell variety (*E. cinerea*), but the former is in abundance, stretching from Kingsley and Frensham right away to Hindhead. After the middle of August the hills and dales are smothered in the lovely colour of the ling flowers, gladdening the hearts of bee-keepers dwelling in that district.

It was in this district that I drove the bees from the heaviest skeps I have ever carried. The skeppist puts an "eke" under the skep, and, needless to say, the bees fill up all the space available, and in a good season most of the combs are filled. The people smash the combs up, tie them in bags, and "roast" the honey out in front of a good fire.

Drone-grubs in Sections.—Mr. Crawshaw is about right when he suggests drone-comb in the sections. I always use starters in the sections, for, to my mind, there is nothing so dainty as a comb as tender as the bees can build it. If a full sheet of foundation is used you get the tough midrib. I think I will stick to the starters, in spite of their drawbacks. I question whether the worker-cells would be free from the visit of the queen if she is prolific in a season such as we have gone through, for if "her majesty" has filled all the combs "downstairs," and finds her requirements are upstairs, she will go there if she can.

The Isle of Wight Conundrum.—I think Mr. Crawshaw does not quite see the *point* (put your finger there, sir!). I advocated driven bees for the island, not

because they are immune, but for economy's sake. At the present time the disease is still in evidence, and if money was spent in buying and sending *stocks* a good deal of cash would be actually thrown away, supposing that the said stocks contracted the unnameable disease, whereas driven bees sent down by brother bee-keepers in pure sympathy, free and carriage paid, would not cost nearly so much, even if they met their fate, and at the same time would give the bee-keepers an opportunity of prosecuting their studies in the hopes of finding a cure. If I am wrong in my theory, I hope Mr. Cooper will "pounce" on me in such a manner as I deserve. I am sorry that there has been so little response to the appeals in these pages from Mr. Silver and others. By all means start the subscription list now, so that when the time is ripe there need be no delay in restocking the island. I shall be glad to subscribe my mite.

Mating and Loss of Queens.—According to reports from brother bee-keepers, I have been fortunate in having queens mate successfully. I reared a dozen, and only two failed. I lost another through moving the nucleus to a fresh quarter. The queen had commenced laying, and I took the precaution, as I thought, of moving the hive a yard every other day; but on looking for the queen a week or so later I could not find her, neither were there any eggs. It appears that she must have taken flight after having commenced her maternal duties, and in moving the hive she failed to locate on her return.—HANTS BEE, October 27.

BEE-NOTES FROM AYRSHIRE.

THE VARIABLE SEASON.

[6886.] The year 1907 will be long remembered by bee-keepers in this part as the worst season for a very long time. Striking an average in a bad season is more difficult, I think, than in a good one. Taking a radius of four miles from our location, we come across one bee-keeper with next to nothing to speak of in the way of surplus, while another secures about 80 lb. per hive of good comb-honey, with little or no attention to the bees so far as management goes. This seems rather a strong way of putting it, with everyone crying out about the bad season. The second bee-keeper lost three or four from starvation in June, but the rest had enough to keep them going until the fine fortnight in July, and were then in the pink of condition, with the white clover in splendid bloom. Besides, the bees were supplied with racks of drawn-out sections just in the nick of time, so that they were filled and sealed over in a remarkably short period. With myself this has been the worst season for honey that I have experienced since I came to this county nine years ago. Bees had to be fed from the beginning of April right on more or less until the end of June, and, with all the care and attention, I could only scrape an average of about 35 lb. per hive of section-honey.

Prices have shown a slight tendency to be higher, but only in the case of the business bee-keepers. The majority who had any to sell let it go at the usual 9s. or 10s. the dozen for sections or bottles. Those who stuck out for a fair price got 11s., 12s., and 13s. for the same class of stuff, perhaps a little better prepared for the market. The heather was drawn blank in regard to surplus, but the bees gathered enough to tide them over the winter, and came home fairly strong, with plenty of brood that should bring them out strong in the spring.

To-day (October 28) I noticed the bees carrying in pollen quite freely, gathered in this instance from the Michaelmas daisies. Do you not consider it is far better for the bees to obtain natural pollen from outside the hive than take it from a cake of candy, or from shavings, &c., as described at the Conversazione? Surely none of the members present remembered the autumn crocus (*Colchicum autumnale*). You can have it in flower from August to October. The bees get as much from the one as the other. If they do not work with the same gusto on the autumn crocus as on those that flower in spring, it is the time of the year more than the flower that accounts for it. Those in want of pollen for driven bees should try dusting pea-meal on the flowers of the Michaelmas daisies on the morning of a fine day. Wishing the B.B.J. every success.—ALLOWAY, Ayr, October 28.

HONEY DAMAGED IN EXTRACTOR.

[6887.] Referring to the letter of Mr. Wakerell (6872, page 427) on the damage done to honey in extractors, may I ask, Why not make the extractor body of glass? Huge bottles are used for holding acids at gasworks, &c., and surely the same bottles minus the neck and shoulder, and with the bottom raised inside like that of a wine bottle, would answer well. These bottles are toughened, and will stand ten times more rough usage than earthenware, while enamelled iron is very liable to chip and scale. The cage could be made to revolve on a centre supported on a tripod of tinned iron, which could then be lifted out and cleaned like the cage itself. Would any glass-makers quote the price for such articles to the B.B.J.?—H. C. H., Newton Abbot.

BLACK BROOD.

[6888.] In reply to "East Saxon" (6877, page 436), I think he will find all the information he requires in the report of the Conversazione in B.B.J. of October 31. I have known of the existence of the disease for some years in several parts of the country. It seems to me folly to keep one even slightly diseased stock near twelve healthy ones. I should destroy it at once. It is in the spring that the disease spreads with such startling rapidity. — ERNEST WALKER, Cobham, November 3.

DRIVING (?) BEES.

[6889.] In reply to Mr. Woodley's inquiries (6875, page 434), I beg to state that my letter was sent in on September 16, but great pressure on your space at the time delayed its publication until October. The 17th of that month would certainly be too late to drive bees, and, as a rule, I prefer to drive in mid-August. This year the bees were gathering honey abundantly up to almost mid-September, the main source of supply being a great field of knap-weed, which yields very nice-flavoured honey. Being very short of honey, apart from all considerations of preventing future disease, it was necessary to drive all the bees in order to supply my special customers, who year by year take my honey at a fair fixed price, and never go elsewhere for their honey, even when the market price is lower than mine. Customers like these deserve to be well treated, and although I could have sold what honey I had at a much higher price this year, I made no alteration to these honourable customers.

Where bees are driven late, and the weather is as bad as it has been this autumn, it is desirable to give flour candy to the bees to supply the place of pollen. I do not unite the bees of my respective stocks at the time of driving, having found that single lots driven in mid-August breed up strong for the winter, and collect almost enough honey to keep them too. I do not advise driving after that period as a regular practice. My single colonies in August are very strong, as in all cases where possible the queen occupies twenty brood-frames. As already stated, the foul brood found in my hives was very slight, and consisted of a few old cells strongly sealed over, which had been in the same condition since June. There were no perforated cells, nor were there any open cells, containing diseased larvæ. The slight disease existing had entirely ceased with the advent of the honey-flow. I drove the bees direct on to foundation, seeing that there was no active disease in the hives; this practice was quite in order. In accordance with my usual practice, I shall fumigate all the empty hives, &c., during this winter, though I do this because of preferring to err on the safe side without deeming it really necessary. It is this attention to details that enables me to deal so successfully with the disease. It adds to the work, but I lose nothing.—W. J. FARMER, Redruth, November 2.

[We once again renew the hope expressed in our footnote to the letter (6866, page 416) in B.B.J. of October 17, viz., that he would not use the term "driving" bees when referring to the simple act of shaking or brushing them from their combs. If we are to make no distinction between driving and shaking, readers will be at a loss to know what is meant.—EDS.]

DIFFICULTIES OF THE PAST SEASON.

[6890.] While this subject is being discussed it may be helpful to refer to the hard fight against starvation and death of the bees in an apiary in Sussex that I visited in spring and autumn. My first visit to the place in question was during the first week in April. When I took some new sealed honey from two of the hives, of which the bees had a quantity, not only new honey, but new comb had been worked to store the honey in. The honey was, I believe, gathered from the catkins of the common willow. All stocks in the apiary were then in forward condition. I again examined these same hives in September last, at which time even the good weather that had prevailed for some time previous to my call had not removed the evidences of long-continued fighting for life earlier. There were swarms that had been good strong ones only half-filling their hives now with bees, and the frames occupied were not filled with comb. The established stocks were weak and short of stores, and had in every hive and comb evidence of the hardship through which the bees had only just managed to hold on to life. Some uniting was done and liberal feeding advised, but the work of preparing the food was put into the hands of an inexperienced and disinterested person, and from what I saw of it in the preparation I am sorry for those bees, that even now might have had some heart put into them to enable them to do well when the opportunity arrives.—A TRAVELLING EXPERT.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

American Duties (page 386).—The probability is that there is no protective tariff against *comb-honey*, because so little of this is sent to the United States, and no

one would anticipate a Transatlantic trade in this commodity. Mr. Farmer has a huge task on hand if he undertakes to reform a nation's "duty to its neighbour."

Wired Foundation (page 387).—What is the use of this? Surely not to prevent stretching, as this can easily be prevented otherwise. The best foundation does not stretch badly, and the object of wiring is to ensure flatter and, what is more important, stronger combs. For this purpose wires must be attached to the frame, and not merely embedded in the foundation by the maker.

Value of Lime-trees (page 393).—This tree can hardly be dismissed as of little value without further evidence. When it is remembered that so well known a bee-keeper as Mr. G. M. Doolittle relies upon this, the bass-wood, for his surplus, it will be seen that it is not negligible. That it varies in value on different soils and in different years and climates may be true, but this is also true of the majority of nectariferous plants.

Scotch Firs and Heather (page 397).—Does Mr. Avery find that his bees gather much propolis during the "ling" time? He speaks of a Scotch fir near his moor location. My own heather stocks rest under the fringe of a plantation of these trees, in the charge of a gamekeeper, who tells me that during the sunny hours the hum in the tree-tops could be heard for some distance. The bees seemed to be more busy there than in their proper sphere, for there was apparently more inducement to linger amongst the pines than to pine amongst the ling! A few more such years, and this aromatic resin may be more plentiful than honey! Properly sought, propolis ought to be an article of profit.

More Fresh Air (page 398).—If sunny weather and good honey-flows can cure foul brood, why is there not a plague of the disease this year? Perhaps there is, but it lacks announcement. What do the autumn experts report? Sunshine is certainly a germicide, but it has to look round a good many corners before it can reach the dungeon cells of the hive.

Workers in Queen-cells (page 401).—The dates here given would hardly seem to synchronise with those necessary to the rearing of adult bees. Is it not more than doubtful whether workers are ever reared in queen-cells—at least, by our variety of the honey-bee? Workers have occasionally become imprisoned in queen-cells, but such are reversed in the cell. The opposite should be noted by observers when reporting. If the phenomenon does occur, one would expect the adult to possess some queen characteristics, and the specimens might profitably be examined microscopically.

Formalin and Foul Brood (page 401).—If a bee-keeper could so experiment with this drug in such a rough-and-ready way as to destroy nearly all his stocks, it does not speak highly of his care, and his other experiments may be open to the same charge of thoughtlessness. He condemns all remedies wholesale in a district where foul brood exists. Well, they would be no good anywhere else! One is led to wonder how the race of bees has persisted at all up to the present day. Does it run more risk of extermination now than when Nature had a free hand?

To Bee-way, or Not to Bee-way (page 404).—I am much obliged to "Minnesota" for pointing out my error. He has, however, missed my intention, although his interpretation is quite reasonable. This is due no doubt to the necessarily boiled-down brevity of "Cappings." My original intention was to describe the bee-way as an integral part of the flat cover, but for the fact that this is more often in the body-box, and sometimes halved between the two. Hence the phrase to which he objects, and my endeavour to avoid the Scylla of inaccurate generalisation would seem to have landed me in the Charybdis of worse inaccuracy.

Apropos of "Minnesota's" point, I have heard that quilts are used to-day by some American bee-keepers "without the bee-way." His reason that the bee-way should be adopted here is not sound, as the bee-way already exists in the majority of modern English supers. The reason for the American bee-way is to prevent the attachment of the frames to the quiltless cover, whilst allowing the cover itself to be sealed at its edges against wind. By the way, that doesn't mean "attached to a farthingale by its skirts"!

Queries and Replies.

[3632.] *Bees Diminishing in Numbers.*—I have three stocks of bees, one of which I transferred from a straw skep to a frame-hive, and another I worked for sections, but as these were only partly filled I let the bees clear the honey out. With reference to this latter lot of bees, I have been much puzzled by observing that the bees—which had been native blacks, like my others, in the spring—were gradually being replaced by yellow-striped bees, so I concluded they had requeened themselves. Soon after taking off the sections to examine them I found only sufficient bees to cover eight frames, so I contracted the hive accordingly. A month later I found the bees to be still

fewer in numbers—about sufficient to cover six frames—and they were still composed of two varieties—blacks and yellow-striped. On the third frame from one end there was a small patch of brood—about 100 cells on one side of the frame only—but no sign of eggs or unsealed brood. I uncapped a cell, and saw the grub to be pearly-white and plump. I then noticed many of the bees to have a little red insect on their backs, and on finding the queen (herself a black one, so I suppose she must have been fertilised by a yellow drone) I saw she had five or six of these insects on her. I send a sample of the insects herewith, and hope they are not too dried up, but for want of time I have not been able to write before.

Three weeks later I again examined, and found only sufficient bees to cover four frames, but a slightly larger patch of sealed brood on the third frame, and on both sides this time, but no eggs or unsealed brood. I again uncapped a cell, and saw the grub to be quite white and plump. I had a friend with me on this last occasion, but we did not catch sight of the queen, but noticed the parasites were still on a large proportion of the bees. There were ample stores in the hive, each frame sealed over along the upper part, and unsealed stores on many of the combs nearly to the bottom. At neither of the examinations did I notice any young grey bees, and at the rate of decrease in the month and the three weeks referred to I do not expect there will be any bees in the spring at all! On November 1 I noticed several bees with large pellets of yellow pollen on their legs, so presume there must be still some brood being reared. Can you suggest a reason for this gradual decrease in bees?—H. C. H., Newton Abbot.

Reply.—You are probably mistaken in attributing the diminished bulk of bees now in the hive entirely to loss of numbers. It is quite usual to find bees covering eight or nine frames in September only occupying five or six at end of October. You need, therefore, not feel alarmed or suppose that the bees will be all gone in the early spring. Those now alive will be workers that are not yet worn out with toil, and while breeding is still kept up, even on a small scale, it shows that the queen is all right and that there is every prospect of the stock being safe for winter.

[3633.] *My First Attempt at Transferring.*—I am writing to ask your advice on a "situation" with regard to my bees which puzzles me. The full "history of the case," as doctors say, may help you in advising. First, then, let me say, I had for long a desire to keep bees, and when holiday-making in August last I bought a stock in skep, and on my return to Ealing transferred the bees to a frame-hive by "driving," and while doing this I carefully watched for the queen's exit from skep, but did not see her as the bees passed up. An apiarian neighbour searched the frames with me later, and neither of us could find any queen. My friend had already suggested queenlessness from the inactivity of the stock. Failing to find a queen, I sent to an advertiser in B.B.J. for a driven lot of bees so as to get one. However, in uniting my purchase to the other bees I found the queen of my stock which was thought to be lost, and, furtner, some brood, which had been absent when the stock was examined before. But as the sender of the driven bees said their queen was a "1907 fertile queen," I deposed the other for the advantage in age.

So far the history; now comes the incident. To-day, while working in the garden near the hive, and noticing some unusual animation at entrance, I watched, and presently saw the queen emerge and take wing, returning, however, almost immediately. Perturbed at this—as I understood that queens never left the hive a second time—I have examined the frames, and find no brood, but several torn-down queen-cells. This, to me, indicates (1) absence of a fertile queen and an attempt at queen-rearing; (2) the emergence of resultant queen and destruction by her of the others, so that a virgin queen is now in possession. Thus it comes about that my deposition of the other (fertile) queen ended in disaster, and I am faced with the necessity of getting another queen or having my stock, which is now very strong, dwindle in the coming spring to impotence.

Please tell me, therefore, if my conclusions are right, and, if so, what is best to do. Pardon the length of my letter, but I thought a full account would be helpful in deciding on my case. With thanks anticipatory for reply and retrospective for help already gained from Journal, I send name for reference, and sign—Principio, Ealing, Middlesex, November 2.

Reply.—Your concise account of what took place is not only helpful, but shows a grasp of the "situation" not usual with beginners. In fact, your conclusions are right in all respects. The only course left is to obtain a fertile queen for uniting with the bees as soon as possible. An advertisement in our prepaid columns would probably result in one being obtainable, and we need hardly add that you must be very careful both in being sure that the "virgin" now in the hive is removed, in preparing the bees for accepting their new mother-bee, and also in introducing the latter.

WEATHER REPORT.

WESTBOURNE, SUSSEX,

October, 1907.

Rainfall, 6·97 in.
Heaviest fall, ·90 on 14th.
Rain fell on 25 days.
Above average, 3·18 in.
Sunshine, 115·5 hours.
Brightest day, 26th, 7 hours.
Sunless days, 4.
Below average, 7 hours.
Maximum temperature, 64° on 1st.
Minimum temperature, 32° on 25th.
Minimum on grass, 29° on 25th.
Frosty nights, 1.
Mean maximum, 57·3.
Mean minimum, 45·1.
Mean temperature, 51·2.
Above average, 2·8.
Maximum barometer, 30·100 on 12th.
Minimum barometer, 29·071 on 17th.

L. B. BIRKETT.

OCTOBER RAINFALL.

Total fall, 7.82 in.

Heaviest fall in 24 hours, 1.25 in. on 9th and 16th.

Rain fell on 26 days.

Average daily fall, .30 in.

W. HEAD, Brilley, Herefordshire.

Notices to Correspondents.

*** *Erratum.*—The fifth line of first par in this column last week should read "prices for extracted honey, in bulk, show an advance of from ½d. to 1½d. per lb. above last year's prices."

CYMRO (South Wales).—*The "Claustral" Hive.*—It would, we think, be better if you had an opportunity of testing the form of "Claustral" hive proposed by yourself before going further than making the "little model of the hive" to show its working parts. But under the circumstances it might be possible to test a full-sized hive during the coming spring months. By reading what appeared in the B.B.J. at the time the Abbé Gouttefangeas's hive was first brought to the notice of bee-keepers you will find plenty of useful details of the uses to which the hive can be put during the early spring in preventing spring dwindling, the dangers of "robbing" at that season, &c. If, however, you prefer to send the model here for inspection we will see to its safe return.

INQUISITOR (Llandudno).—*Best Districts for Honey.*—1. With regard to England, the South is considered better than the North for the quality of the honey yielded by the ordinary forage growing there. Excellent honey is also gathered in Wales and some parts of Cheshire. 2. Scotch heather-honey is admitted to be superior to English, particularly that produced in the Northern Highlands, where the "ling" grows in such abundance. 3. The Glenluce district of Wigtownshire will, we think, make no such claim as you put forward for it, viz., that of being "the best place in the kingdom for honey." You could obtain reliable information on this point by reading the monthly articles contributed to the *Bee-keepers' Record* by Mr. W. McNally, who is, we suppose, the largest and best-known bee-keeper in that county.

J. K. (Cheshire).—*Naphthaline for Prevention of Moths.*—Whoever the "well-known chemist" may be, we entirely traverse his statement that naphthaline in balls, as used by bee-keepers, is either "dirty" or "dangerous" for use among clothing as a protection against the ravages of moths. Persons who would not think of using substances among their clothing to which the terms quoted would apply (ourselves included) regularly use powdered naphthaline balls in small paper packets for the purpose named. To "recommend a low temperature as the ideal preservative" is, to our mind, simply begging the question, seeing that clothes moths do not fly about in cold weather seeking for warm places and material in which to deposit their eggs, but in the warm evenings of autumn. Nor is it the grown moth that eats holes in woollen clothing, but the tiny larva in its early growth, before it reaches the chrysalis stage. In this way we do not see where the usefulness of a low temperature comes in.

Honey Samples.

H. C. H. (Newton Abbot).—Sample is thin and unripe, and therefore not likely to keep well. It is from mixed sources, and about third or fourth grade in quality.

R. J. HOLMAH (Cudham).—Honey sent is thin and beginning to set up fermentation. It is from mixed sources, and of only poor quality.

S. H. (Cornwall).—We do not quite agree with you in calling sample of honey sent "very dark," though its present condition of semi-granulation may have improved its colour somewhat. There is a very perceptible heather flavour about sample, making it a nice honey for table use.

Suspected Combs.

M. E. (Carlisle).—Comb sent is affected with foul brood of old standing.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Editorial, Notices, &c.

REVIEWS.

Wild Bees, Wasps, and Ants, and Other Stinging Insects. By Edward Saunders, F.R.S., F.L.S., &c. (London: G. Routledge and Sons, Ltd. 3s. 6d.)—This is just the book that has long been wanted, for it gives in as simple a form as possible a short account of some of the British wild bees, wasps, and ants known to science as *Hymenoptera aculeata*. Of these probably very few persons except entomologists recognise more than the honey-bee, the humble-bee, and the wasp or hornet, whereas there are 400 different kinds to be found in this country alone. The object of Mr. Saunders's book is to interest those who are not entomologists and enable them to recognise and learn a little about this order of insects, which they commonly see round them, and how they spend their lives. Four groups of Hymenoptera are selected. These consist of bees, wasps, ants, and sand-wasps, which make up the stinging section of the order. They are the most common and easiest for study, being creatures of spring and summer that can be found near home. We have here been given the life-history of the solitary bees—so-called because one male and one female are interested in the production of the nest—to distinguish them from the social bees, of which the honey-bee is the most developed example. The latter, as is known to bee-keepers, all work together towards the maintenance of the nest. We are then introduced to cuckoo-bees or inquilines, as they are usually called. These live at the expense of their hosts, and, like their feathered namesakes, lay their egg in the cell alongside that of the mother of the industrial brood. The cuckoo, being more ravenous, gets most of the food, and in consequence the rightful offspring gradually becomes starved, and eventually dies, the usurper appearing in its place. The solitary wasps, which provision their cells with caterpillars after paralysing the latter by stinging, are also worthy of study. Mr. Saunders is able to interest his readers by introducing them to the "bees at work" and showing them how anyone with a little observation will be able to discriminate between the different insects he sees. We learn that bees fly differently from flies, that they are more captious about the weather, do not like an east wind, and are very sensitive to coming wet. We are further told how an "aculeate" can be recognised, for it is well known how often flies are mistaken for bees; yet their habits are so very different. On a flower, if an insect is seen quietly sitting with its head away from the centre of the flower, it is almost certain to be a fly. A bee would fly on to the blossom with rapidity, and move round the flower, if a composite, getting pollen from each floret in succession with a business-like action about it all, very different from the behaviour of any fly. The author has given us a pleasantly-written book, well illustrated in the text, in addition to four beautifully-coloured plates containing thirty-one figures, enabling anyone easily to recognise these insects. Mr. Saunders has tried to avoid scientific names as much as possible, only using them where popular ones do not exist. This is just the book for a Christmas gift, and comes at an opportune moment. We can thoroughly recommend it to our readers, and hope that its study will enable them to take more interest in a subject that they will find most fascinating.

Beiträge zur Naturgeschichte der Honigbiene, nach den Vorträgen Dr. Alber Fleischmanns. Edited by Theodor Weippl. (Published by *Illustrierte Monatsblatter für Bienenzucht*, Klosterneuberg. Part I. price 9d.).—This is the first part of a work to be entitled "Contributions towards the Natural History of the Honey-bee," being the substance of lectures by Dr. Fleischmann, Professor of Zoology and Comparative Anatomy at the Royal University, Erlangen. The editing is carefully done by Theodor Weippl, editor of the above-mentioned paper, and in the first two chapters are described the exterior body-parts, hairs, legs, wings, and the various mouth-parts, the structure of the body, and in the third chapter is commenced a description of the internal organs. The descriptions are very clear and concise, and the numerous illustrations and diagrams are a great help in understanding the text. Most of the illustrations, which show great care in their preparation, are from drawings by Dr. Fleischmann, and are so plentiful that we find no fewer than fifty-nine in the thirty-two pages before us. When completed, this work will be a valuable addition to our literature on the subject. The second part is to appear in February, 1908, and there are to be in all five or six parts to complete the work, which will be delivered to subscribers, as single parts are not obtainable.

L'Arnia Claustrante e il Metodo Claustrale By J. M. and E. B. Gouttefangeas. Translated into Italian by Professor Carlo Passerini. (Turin: Tipografia Salesiana. Price lire 3.50.)—This is a translation from the French work by the Abbé Gouttefangeas, which has already been reviewed in B.B.J. for February 5, 1905. The claustral ventilated hive and detention system, discussed and illustrated at the annual meeting of the B.B.K.A. of that year, have at-

tracted much attention on the Continent, so that the author has found it necessary to prepare a second edition, which is now in the press. The Italian translation is from this revised edition, and contains several additions, the result of the author's further experience with the hive.

Le Api, Tesoro della Montagne. By Abbé J. M. Gouttefangeas. Translated into Italian by Professor Carlo Passerini. (Turin: Tipografia Salesiana. Price lire 0.80.)—This is a small book of eighty-five pages intended to instruct dwellers in mountainous regions in modern methods of bee-keeping. These are lucidly explained in the fourteen chapters, and the illustrations help to make the instructions clear. The author himself lives at an altitude of 3,575 ft. above the sea, so is able to speak from experience.

Onions.- By Horace J. Wright, F.R.H.S. (London: Agricultural and Horticultural Association. Price 1d.)—This is the thirteenth of the series of cheap garden books edited by E. O. Greening, F.R.H.S., several of which we have already reviewed. The onion is a very popular vegetable, and as wholesome as it is palatable, and no garden can be considered complete without a good supply of this bulb. The cultural directions are thorough and explicit, and the numerous illustrations, with a list of varieties, will aid the amateur in making a selection.

CROYDON AND DISTRICT B.K.A.

The usual monthly meeting of the above was held in the association's rooms, Wellesley Road, on Thursday, November 7, when W. G. Fischer-Webb, Esq., opened a discussion on "The Past Season's Work." Many members took part in the discussion, and it was made evident that the past summer has been a disastrous one for Croydon bee-keepers, the fact being that those among the speakers who had taken any honey from their stocks had been obliged to feed their bees very liberally with syrup. A vote of thanks was accorded Mr. Fischer-Webb for his interesting paper, and the meeting closed.

Special attention of members is drawn to the fact that the annual general meeting will be held on Thursday, December 12, at 8 o'clock sharp, to receive the report and balance-sheet for the year. Election of officers, &c., to be followed by a concert. Will members kindly make an effort to attend?—A. WAKERELL, Hon. Sec., 21, Mansfield Road.

HONEY SHOW AT EDINBURGH.

The honey show in connection with the Edinburgh and Mid-Lothian Home Workers' Competitive Industrial Exhibition in the Waverley Market took place on October 24, Messrs. J. C. Murray and J. Aitken officiating as judges, and the awards were as follow:—

Super of Flower-honey in Comb.—1st, John Clark, Carnwath.

Three 1-lb. Sections Flower-honey.—1st and 2nd, John Clark; 3rd, J. M. Stewart Castle-Douglas.

Three 1-lb. Jars Flower-honey.—1st and 2nd, John Clark; 3rd, Mrs. J. Harris, Sibsey, Boston, Lincs.

Super Heather-honey.—1st, John Clark.

Three 1-lb. Sections Heather-honey.—1st and 2nd, John Clark; 3rd, J. G. Nicholson, Langwathby, Cumberland.

Three 1-lb. Jars Heather-honey.—1st and 2nd, John Clark; 3rd, James Pearman, Penny Long Lane, Derby.

Display of Honey.—1st and 2nd, John Clark.

Stock of Bees, with Queen.—1st, John W. Moir, Shandon Crescent, Edinburgh.—(*Communicated.*)

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of October, 1907, was £1,793.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

AMONG THE BEES.

SOME FEATURES OF THE PAST SEASON.

[6891.] So very few queens got fertilised during the past summer that many more than the average number of aged mothers will be left to head stocks another year. My advice would be to give these every opportunity of proving themselves before taking any summary procedure against them at the opening of next season. The craze for exterminating all queens of a certain age, irrespective of the work they are capable of doing, is wearing off. Many a time and oft bee-keepers find on superseding a queen and purchasing a new one

that the last state of that colony is worse than the first. I know of several investments last season proving utter failures. This was particularly the case where virgin queens were obtained, as scarcely one of these got mated in time to be of any use. The same holds good in regard to swarmed stocks. Many of these when looked at late in the season had run down to almost the vanishing point from the want of a mother-bee. Very few nuclei proved a success owing to the scant opportunities the season afforded for drones flying out. The unseasonably inclement weather starved out small lots of bees, both with cold and hunger, so that failure was more common than success, in spite of tender care.

The queens invaded the super-space considerably more than they generally do, but the percentage of soiled sections was still so small that I see no reason for reverting to queen-excluder. Brace-combs were very conspicuous, and from some cause not over-apparent sections were joined to separators to an abnormal extent. I am inclined to the belief that honey lacked in consistency, that it was less finely flavoured, and sections were lighter as a rule, and not so highly finished as they generally are. We had an almost utter absence of drones, but repeatedly immature grubs were thrown out in all stages of advancement. Swarms were numerous with many in my neighbourhood. I had only one, as noted before, from my one large hive.

"*After Forty Years.*"—"Can you," said the creator of Warrilow, "after forty years' experience, lay down for beginners in bee-keeping one royal maxim of success above all others?" The Bee-master thought a moment and replied, "Let them beware the foreign female element. Let British bee-keepers cease to import queen-bees from Italy and elsewhere, and stick to the good old English black. It is a more generous honey-getter in indifferent seasons; does not swarm so determinedly under proper treatment as the Ligurians or Carniolans; and, above all, though not so handsome as some of her Continental rivals, she comes of a hardy northern race, and stands the ups and downs of the British winter better than any fantastic yellow-girdled crew from overseas." Any comment of mine on the above would only spoil the beauty and force of this extract, so I leave it to speak for itself.

Bee-hives in Mourning.—"A striking illustration of the superstitious belief of Cornish country-folk may be seen in a garden at Perranwell. A death recently occurred in the family of a bee-keeper, who thereupon—believing that if he failed to do so the whole of his bees would also die!—draped each of his five hives with a piece of black crape." This has been going the rounds of the Press recently. I wonder if it is of authentic origin?

Coming to the other extreme corner of the South of England, I find the following racy bit in a recent work, the chief incidents of which are located in Kent:—"Mrs. Pinion died the year of the comet; a wery bad year. And that was not the worst, for then I lost my old sow; fine animal her was too. I believe her died out o' spite, 'cause I whispered the death to the bees and forgot *her*." Pinion held to the old Kent notion of whispering news of death to the stock, as if it were a doctrine of the Church. "I got another wife," added Pinion, "a widder, married her an' her cottage, but I ain't not been able to afford another sow."

I always hitherto understood that "telling" the death of members of a family was confined to *Apis mellifica*, but it seems other creatures look for it if old Pinion's ideas will hold water.

Hive Protection.—In winters such as we often experience some outside protection would aid the bees in keeping up the internal heat without the consumption of so much stores. Tarred or roofing paper is used to a considerable extent in America. Roofing felt would answer the same purpose, and I mean to try it on some of my hives this year. I had some last year with the felt in the form of a hood, but it got so knocked about and cracked that it will not serve the same purpose again. Hives, however, covered with a piece cut to size of roof seemed to benefit by the warmth imparted by this protection. It can be loosely tacked on, or fastened by two or three pieces of twine run across each end and in the centre, these being tied to nails partly driven below the eaves.

A Shade Board.—This is a useful appliance when snow is on the ground, as it hinders bees from flying out to die on the soft, powdery snow during a bright spell of sunshine. Further, a board fitted to lean up from front of flight-board to roof of porch, about a foot in length, while allowing a full play of fresh air for ventilation round the open ends, checks the influx of cold, piercing winds, or fine, powdery snow-drift. Hence the bees are kept more comfortable when thus protected; and at a smaller cost of energy and lighter consumption of stores they can protect themselves from Boreas' blasts.—D. M. M., Banff.

HONEY DAMAGED IN EXTRACTORS.

[6892.] In answer to your correspondents Mr. Wakerell (page 427) and "H. C. H." (page 446), I should like to say that an extractor body made of glass in which wire netting is embedded could

be made, but the chief disadvantage would be the extreme weight. I believe our Editors have already pointed out that honey is damaged (coloured black) through the "iron-plate" being not properly coated with tin; and I can confirm this. But an extractor could be made (if bee-keepers are willing to pay for it) free from these defects; that is, the iron could be thickly coated with tin *after the extractor is made*. In America, or at least in the U.S.A., extractors and store vessels are made of galvanised iron—that is, iron coated with zinc; why the same are not used in this country I am unable to say. Probably the honey has no effect on the zinc, or our friends the Americans would have found it out. I am in a position to give any information regarding extractors, and if your correspondents care to communicate with me I shall be pleased to hear from them.—FRED A. KENT, Dorchester, November 7.

IS A STANDARD HIVE WANTED?

[6893.] Judging from what I read in your JOURNAL of this week (6884, page 444), and the editorial footnote to the letter of "Robin Hood," I think there is a misunderstanding as to what is meant by a "standard hive" by those who advocate it. A "standard frame" is the first and most difficult step towards a standard hive; and if considerations of the most generally profitable method of bee-keeping have fixed the *size* of the "standard frame," another commercial aspect of the case would surely point to the wisdom of adopting a standard hive: I mean the convenience which would accrue to both buyer and seller of stocks of bees and hives.

I think the majority of bee-keepers would, according to their district, prefer nine, ten, or even twelve frames in the brood-chamber. Well, the hive would be a "standard hive," no matter how many "standard" frames it held. Its construction would be the same in every detail, except for its varying width. Take an example. Being desirous last spring of giving the "Holborn" hive a good trial, I ordered a number of them from one of our principal hive-makers, and was very well satisfied with the design. But, being pressed for hives, and this firm being somewhat behindhand in filling its orders, I obtained another lot of "Holborn" hives from another of the principal makers, naturally supposing I should obtain the same article. But beyond the one similarity in having a winter case which could be used as a "lift" in summer, they were unlike in every single detail; so that parts of one are not interchangeable with parts of another. And yet each pattern had its peculiar merits; but why not standardise them?

The adoption in this country of a "standard" hive, in which all the parts of any hives containing a like number of frames would be interchangeable, would not interfere with the right of anyone to use just what kind of hive he thought best; but, in buying hives and stocks, I think the prudent bee-keeper or novice would buy standard hives because of the greater convenience of manipulation in the apiary and of their being more readily saleable. May I suggest that the opinion of leading manufacturers be asked on the question? A maker that turned out nine-tenths of his hives of one pattern could sell them cheaper, and probably make more profit for himself, than if he had, as now, to work to half a dozen different patterns.

When we import £50,000 worth of honey every year without exporting any it cannot be said that we are developing all our resources. And as bee-keeping is usually the industry of the poor man, it behoves us to make it as easy as possible to engage in it so as to save this £50,000 to the country. A "standard hive" which would be a *cheaper* hive would be one means of doing so. Name sent for reference.—MINNESOTA, Cambridge, November 7.

[The experience of our correspondent with regard to hives known by the same name made by different manufacturers not being alike, tends to show a disadvantage that would inevitably result from "standardising" any particular form of hive in this country. In the case of "Minnesota" himself, he selects a hive designed by Messrs. Lee and Son, who give to it the name quoted, but when the "Holborn" hive is ordered from another firm not connected with the original manufacturers the result is a hive "unlike the original in every single detail." This is not an isolated case, as we know to our own detriment, there being hives made, with our own initials attached, which we would not use on any account owing to their many faults.

Apart from this evil, however, our correspondent's suggestion of a "standard hive" is obviously impracticable, and we are led to ask: What hive would he choose as the standard? His first choice has fallen on one of the cheapest (good) hives at present on the market. But everyone does not seek for the cheapest hive; some will select the best for their purpose, and perfect agreement on the point could not be hoped for. The advantages of uniformity and interchangeability would also be gone, while the man who prefers ten frames would be saddled with the cost of

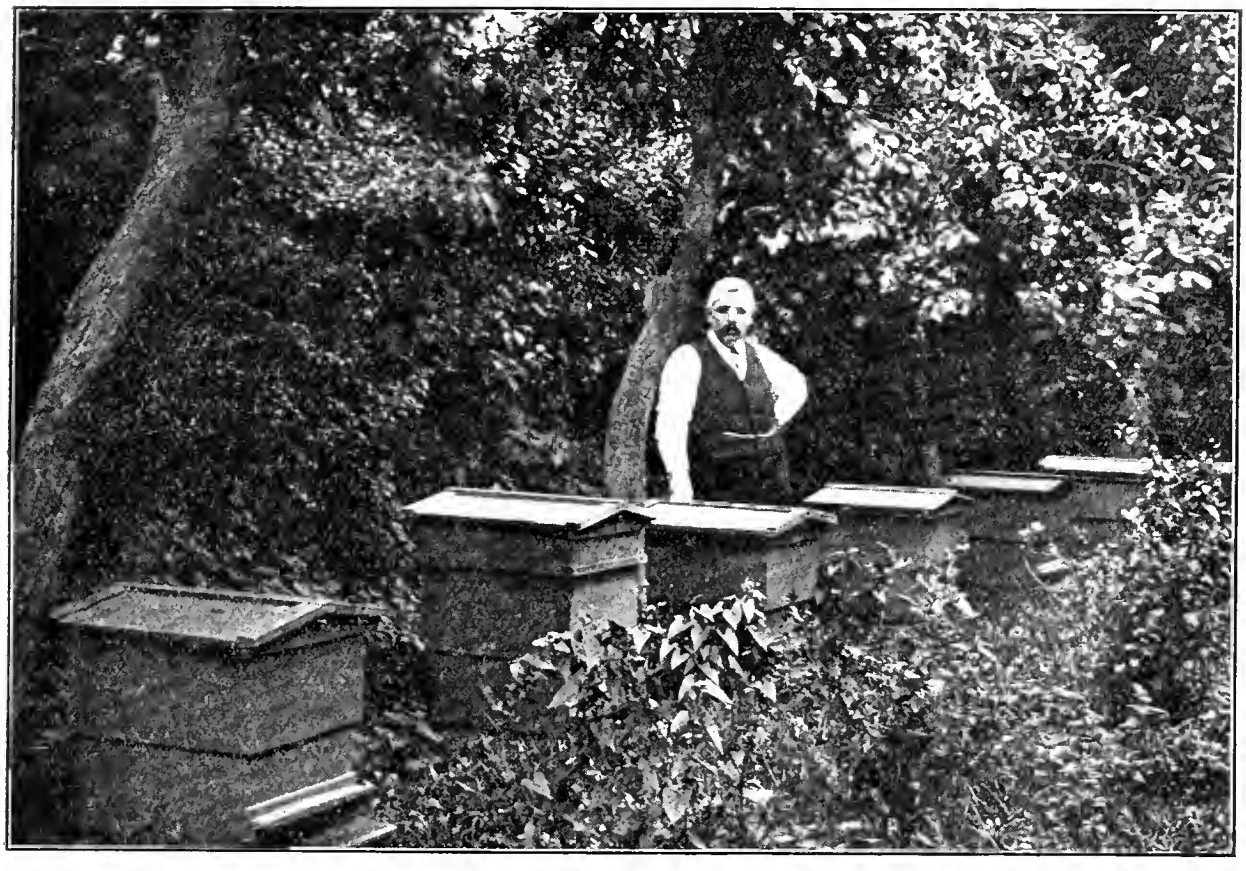
(*Continued on page* 456.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

In Mr. Springett we are glad to welcome a bee-keeper of the best kind, one whose interest in the craft extends beyond his own bee-garden. In view of the very practical way in which our friend includes help to others, we are glad to have been in some degree useful to him in the same direction. For the rest, we commend the following "notes," written by request:—

"The hives shown in photo form part of my apiary of eleven stocks, which stand in a garden of about one quarter acre, containing upwards of forty fruit trees, sheltered on the north by a hedge of hawthorn and wild plum, some 10 ft. high. The hives are placed along this hedge, facing south, and, although photo shows a number of bushes in front of them, I have carefully secured free flights for the bees in each. I commenced bee-keeping some years ago, under the guidance of Mr. Robert Lee (of the firm of James Lee and Son), with one stock in one of their well-known 'Holborn' hives. Although I had long been interested in bees before I commenced to keep them, I must say that but for Mr. Lee's help in the thousand and one difficulties which beset the beginner I should never have contracted the bee-fever so badly that I have not got over it yet, and I still run to him for everything, from a queen from America to a hundredweight of pure cane-sugar. This last, having been given to my stocks in the form of medicated syrup, represents my payment to them for 5 lb. of extracted honey and three or four sections this season. I have obtained better results in the past, securing as my record yield for one hive the respectable total of 117 lb. Trouble has, of course, come my way on more than one occasion. I have a very lively recollection of taking a vagrant swarm out of a tree about 10 ft. from the ground. I stood on the top of a pair of steps, enveloped the bees with a pail, hit the branch with the edge of pail, and the bees dropped into it beautifully. Then, in the excitement of the moment, I forgot that I was on the steps, and stepped backward. However, I stuck to the pail, and carried the bees home—eventually. They were a Cyprian *cross*—in more ways than one.



MR. W. J. SPRINGETT'S APIARY, HARLINGTON, MIDDLESEX.

"On another occasion a large swarm of mine settled on a tree in the public highway, and I could not get there to 'take' them until half the boys in the neighbourhood had thrown bricks at them. They were *cross*, too.

"But these little things are sent to try us, and they never dishearten a real bee-man. I have been steadily increasing and extending my bee-work since, having founded two apiaries besides my own, given a couple of lantern-lectures, and am down for several more. I have recently visited four apiaries, and taken on the office of hon. sec. to 'Our Villagers' Bee Club.' An

account of the founding of this small society, in the autumn of 1904, by Mr. W. H. Harris appeared in the B.B.J., and interested me greatly. I would like to give two hints to beginners. The first is: Read the queries in B.B.J. each week, and, before you read the answers, try to answer them yourself. You will then see how little you know, and thereby learn more. The other hint is: Handle every frame in manipulating as though you *knew* the queen was on it. I am sure that every old bee-keeper is with me on this point. In conclusion, I gratefully acknowledge the invaluable help obtained from the 'Guide Book' and the B.B.J."

("*Is a Standard Hive Wanted?*" *continued from page* 454.)

hives larger, more costly, and more cumbersome than he wants. We could go on multiplying advantages, but it is enough to repeat that, in our opinion, the frame is the only thing that needs standardising; the size of the hive may be left to every bee-keeper to choose for himself.—EDS.]

ROSS-SHIRE NOTES.

[6894.] *The Heather.*—It is asked whether the above has really been responsible for any marketable honey worth speaking of. A few have done well, but I fear that the many must confess to something like failure so far as surplus is concerned. Here, at least, the late flow came as a boon and a blessing to the depleted stock-combs and starving bees, but proved very disappointing to the bee-keeper hungering and thirsting after full supers of luscious heather-honey. The prevailing conditions were altogether in favour of brood-nest storage, that bane of the moorman's brief campaign: even those colonies experimentally stimulated during the dearth gave next to nothing in the way of surplus. My best returns in sealed sections were secured from hives swept clear of empty combs, replaced by fully-stored frames just as the honey came in. There was then neither room nor inclination for bottom storage, and from the bee-keeper's point of view the exchange was distinctly profitable.

Brood-frames: The "Standard."—What! have we here bold "Robin Hood," with or without his merry men, seeking, as of old, to alter the *status quo*—to upset the existing order of things? Friend, I fear—greatly fear—that the standard frame is well-nigh impregnable against attack. It has safely weathered many a storm of frame reform, and the occasional attacks it still is subject to savour of the exploits of the lean Knight of La Mancha.

I, too, have fallen under the spell of the larger frame—have experienced its safe-wintering, non-swarming, and honey-producing qualities. For three seasons running my large frame-hive gave 100 lb. surplus from clover; but for the same period it scarcely averaged as many ounces of the more precious heather-honey. This year the above colony, usually "aye the foremost," was found queenless and broodless in early summer, so I seized the opportunity to remove temporarily the deep frames, with the view of lessening their—for autumn work—superfluous inches.

I can fully endorse all that has been said in favour of shallow brood-nests at the heather; and for clover also in a poor season like the past one. There might be some trouble with swarming during a good honey-season, but the local exponent of shallow-brood frames, Mr. Alex. Reid, Balloan, has got over that difficulty by means of his improved bee-hives.

Something New.—Who has not wished for a better method of hiving swarms than the usual one of throwing down at entrance with the risk of the lot taking wing or some similar mishap? Our friend Mr. Reid, being blessed with the benign gift of invention, has devised a combined travelling and hiving box, which, placed on the frame-tops, automatically hives the swarm quickly and without any trouble. Mr. R. Steele, the well-known appliance maker, while on a recent visit here, warmly approved of the idea. Perhaps in the near future it may, along with other "Reid" specialities, be appreciated by a wider circle.—J. M. ELLIS, Ussie Valley, November 9.

PLURALITY OF QUEENS.

[6895.] Around the "Alexander" system of keeping a number of mated queens in one hive, as detailed by Mr. Avery in B.B.J. of November 7 (page 443), there naturally centres an exceptional amount of interest to all bee-keepers. The chief points of advantage appear to me to be its help in prevention of swarming—which came as a surprise to Mr. Alexander—and its method of retaining surplus queens. Other advantages claimed for the system are open to question.

Dr. Miller mentioned in his "Stray Straws" that Mr. Alexander had successfully wintered five queens in one stock up to date (February, 1907). We in England have for many years been acquainted with a plural-queen system in the "Wells" hive, which is now falling into disuse, mainly, I think, on account of the heavy, cumbersome hive, the single hive being so much easier to handle. Yet some valuable lessons were learnt from

that hive. But the "Alexander" method opens up new ideas worthy of trial, and no new hive is required; therefore the outlay is not great. I have wintered a single-comb observatory-hive, and it is surprising to see how close bees can cluster, emphasising the saying, "The best packing for bees is *bees*." If, then, we could unite the results of two queens of the "Wells" system into one compact cluster, as is done on the "Alexander" method, it is worth trying for wintering if it shows stronger stocks in spring. It is hardly necessary to mention the great advantage that would accrue to the apiarist who is located a distance from his bees if he can completely control swarming.

It is clear to most of us that Mr. Alexander's location and the race of bee he works with may lend themselves to his system. Yet, even with our variable climate and varied flora, we may in some measure succeed with his method; so it is worth a trial.

There are those who say it is "contrary to Nature"; which may be true in a limited sense. In the progress of civilisation and in improving breeds by selection the life habits of various members of the animal kingdom are constantly changing, and it is quite possible that we may succeed in changing the habits of the bee to a certain extent sufficient for our purpose. It may be that in the very multiplicity of queens there is safety from "balling."

Two years ago I studied the "balling" question closely, and found that in the early spring manipulation, if a stock had been fed a little so that there was some unsealed food in the combs, the bees were unwilling to break into their sealed store. Consequently a stock with a greater number of field workers at home are not able to fill their honey-sacs so quickly as when there are plenty of unsealed stores, and there is thus less risk of "balled" queens, because filled bees show practically no fight to apiarist or queen. This is in line with Mr. Alexander's method of introducing plural queens. I have introduced two queens into a hive, and they have been at once accepted, but in twenty-four hours the queens were fighting! I have also seen two active laying queens in a stock, one above and one below a queen-excluder, making one powerful stock. Again, two queens—mother and daughter—have been found laying side by side in my apiary. I have also seen two queens successfully introduced by mistake.

A singular thing occurred to me the other day. I had by me a laying queen without attendants, when it chanced that a strange bee alighted on the open cage. The piercing cry of terror that came from that queen surprised me; so loud and prolonged was it that my daughter in the next room remarked, "Father, are the bees 'balling' that queen?" It was accompanied by the curling of the abdomen to ward off attack. After a pause this solitary worker showed fight, and would soon have killed the queen but for my interference.

In conclusion, I say the "Alexander" method of preserving queens is beset with difficulties, and few will be the number that succeed; yet it is worth the effort.—Joseph Gray, Expert and C.C. Lecturer, Long Eaton, November 7.

FRESH AIR AND FOUL BROOD.

[6896.] A correspondent mentioned a few weeks ago that foul brood was rampant in Cornwall; he had gathered this from Mr. Farmer's letter. Mr. Farmer, however, I think, did not mean that insufficient air had caused foul brood, but that it had a great deal to do with the Isle of Wight disease. During a conversation with Mr. Farmer about the time the report from the Board of Agriculture appeared in the B.B.J., I mentioned that in 1904 the same disease broke out in my own apiary. Anxious to seek a remedy, I went to farmers all round the neighbourhood to inquire whether any "spraying" was being done, but soon found this was not the cause. I next visited several bee-keepers, and found that many apiaries were suffering from the same complaint, while others were quite free from it. I also noticed that where the bees were placed on high ground or exposed places the disease had not broken out; so on returning home I lifted my hives to give plenty of air, and removed all quilts but one. This effected a complete cure with stocks which had only suffered from the disease for a few days, while others in which the complaint was of older standing took a longer time; but all were cured successfully. If I were as expert with my pen as with the bees I could give you a longer and perhaps more interesting account of my experiences.—T. Stapleton, Gwinear, Cornwall, November 8.

REVIEWS OF FOREIGN BEE-JOURNALS.

By "Nemo."

The Green Woodpecker as a Bee-enemy.—A writer in *L'Union Apicole* relates his observations on this bird. Towards the end of winter he noticed the woodpecker frequently visiting his apiary, where he had thirty straw hives. On several occasions he frightened the bird on going round his hives, and on examining the hives after the season's work was over he found five which had several holes in them large enough to put

in a finger, all of which holes were at the back part of the top of skep. Another hive had four much larger holes, into two of which three fingers could easily be introduced. He turned up the hive, and found all the bees dead, and has no doubt that the colony had lost its queen, as it was a second swarm, but it contained 15 kilos of honey. Opposite each hole the combs had been eaten, and he concludes that the woodpecker was not after the bees but sought the honey, as it only attacked the hives where there were no live bees and left the others alone.

Unusual Honey-plants.—In *Die Deutsche Bienenzucht* there is an interesting article by V. Wüst, in which he treats on this subject. He says it is well known to bee-keepers that certain plants do not yield nectar at all times, even though they may be blooming well; and this makes it clear that certain atmospheric conditions are necessary before the flowers are visited by bees. He mentions German red clover (*Trifolium sativa*), on which bees work hard at certain times and collect a good deal of nectar. When the conditions are favourable for an abundant secretion of nectar, the latter rises in the tube within reach of the bee's proboscis, and, notwithstanding the shortness of her tongue, a considerable quantity of nectar is collected. Although *Seleranthus annuus* (Knawel) flowers all the summer, it is only visited by bees in the autumn, when they work on it in such numbers that the fallow fields resound with their hum. *Lamium album* (blind nettle) is supposed to yield only pollen, but at certain times the bee inserts her head right into the tube and collects nectar in abundance. The nectaries are united at the base of the tube, and often secrete nectar so abundantly that two or three blossoms will suffice to fill the bee's honey-sac, if they have not previously been emptied by humble-bees, which are very fond of this flower. He also mentions sage (*Salvia pratensis*), with its curious lever arrangement for ensuring cross-fertilisation. This flower also yields well in certain conditions of the atmosphere. Amongst other plants mentioned are:—*Euphrasia odontites* (red bartsia), *Antirrhinum majus* (great snapdragon). *Linaria vulgaris* (common toad-flax), from which bees collect nectar through small holes in the tube. *Pyrola uniflora* (one-flowered winter-green) and *P. rotundifolia* (pear-leaved winter-green) have the habit of scattering pollen on the bee so soon as she touches the petal. These plants thrive in damp, boggy places, and are then very attractive to bees, whereas when growing in dry ground they are not noticed by them. *Centaurea montana* (mountain centaury) is only of use to bees when growing on chalky or lime soil. *Œnothera biennis* (common evening primrose) sometimes yields nectar in such profusion that large drops gather in the corolla accessible to bees, which at other times they cannot reach with their tongues. *Lathyrus sativa* (chickling-vetch) keeps its blossoms closed until mid-day, but during the afternoon bees work well on its blossoms. The flowers of *Vicia sativa* (common vetch) are rarely noticed by bees; on the other hand, they collect nectar freely from the stipules, which yield it in abundance. These observations show how interesting it is to study the relation of bees to flowers, and how many factors contribute towards an abundant flow of nectar.

Honey and Fresh Butter.—In *L'Apiculture Nouvelle* M. J. Crépieux-Jamin gives his method of preserving fresh butter so that it will keep through the winter months. He says:—When the butter arrives it is at once washed in several changes of water (which latter has been slightly salted and boiled for five minutes). The hands of the operator should have been thoroughly washed in ordinary water and soap; then well rinsed in water previously boiled. The butter is then well worked up with the hands, and, after being well kneaded, there is no longer any buttermilk left to cloud the water, and the butter is ready to put into jars. The best for the purpose are those of glass holding about 2 lb. The jars must be well washed in boiling water, and made very clean, then thoroughly dried. When ready for the butter, turn over the jar and burn in it a piece of sulphur-match, then put in the butter and press it well down. This done, pour on the top, to a depth of about one-third of an inch, thoroughly ripened honey just about to granulate, and screw on the lid. If the operation is performed exactly as directed above, the butter will keep easily right through the winter.

Queries and Replies.

[3634.] *Nucleus Hives.* — I should like to know if you do not consider the formation of nucleus hives as essential to successful apiculture. It seems to me that one ought to economise the reckless prodigality of Nature in her bounteous and almost wanton supply of queen-cells. Will you kindly inform me:—1. What thickness of wood should be used in the manufacture? 2. Number of frames necessary? 3. If bees can winter in them? 4. The best plan of arranging nucleus hives in apiary? For instance, should they be placed next to weak hives with a view of

uniting in August, or in a group by themselves? 5. Is it better to wait until ripe queen-cells are found in stocks before transferring to nucleus hives, rather than risk losing brood which is transferred queen-cell-less through probable insufficiency of adhering bees?

Would you also inform me how long it takes for foul brood to develop spores, when I understand the disease becomes dangerously infectious, and do you consider linoleum as too much of a non-porous nature to be suitable as winter wrapping?—F. E. GREEN, Barings Field, Newdigate, November 9.

REPLY.—1. Nucleus hives are made of wood the same thickness as ordinary hives, viz., $\frac{1}{2}$ in. to $\frac{3}{4}$ in. 2. Four or five frames at most. 3. Bees will winter well in a five-frame nucleus. 4. A warm, sheltered corner, facing south if possible, is usually chosen for nuclei, as far removed from the busy part of the apiary as convenient. 5. Nuclei are usually formed about three days before queen-cells are due for hatching out.

The actual date after death of larvæ when spores begin to form depends in some measure on temperature at the time. Nor is it important to have the date given. What we know is that after the nutrient matter in the dead larva has been consumed the bacillus ceases to multiply, and gradually dies out as it were, and the putrid remains dry up, leaving behind a small brown speck at bottom of the cell, this same speck containing countless multitudes of spores, which in a proper temperature and suitable conditions return to the active stage and restart the first form of the disease.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Thick Combs (page 404).—The Rev. R. M. Lamb is such a powerful advocate and has so much experience of thin combs that I should like to ask him for more information, particularly upon those numbered counts on which he lays most emphasis. Thus: (No. 2) Why should the bees neglect a "wide-spaced" super, always supposing that the combs have been uncapped deeply, and are therefore the same thickness as the narrow-spaced combs? (3) Why is it wasteful to uncap deeply? The honey is drained from the cappings, and the extra wax is said to pay for all. (4) Granting that the bees can *cover* two supers, why will they not be sooner ready for the second, seeing that the honey must be placed somewhere? This supposes the same field force. (5 and 6) Does this only hold good for foundation, or for drawn-out combs? (8) Is the "early market" really desirable; or would it not be better to let the honey further ripen upon the hive?

I note that (line 20) Mr. Lamb "agrees" with Mr. Townsend, but differs from him. This is perhaps not the fence position it would seem, and if I may come and fence with Mr. Lamb I would say that I agree with him even in a *rating* attitude!

Odds and Ends (page 405).—It is by such actual observation as this that our knowledge of bee-ways is built up. "D. V." seems to have a faculty for getting at the *route* of the matter. It is to be hoped that he will give us the full benefit of his interesting observations. *Idem.*—Whilst it is probable that two miles is by no means too far for cross-mating, yet is it not just possible that an intermediate hive may exist, already tinged with yellow blood?

Requeening (*Idem*).—Surely "D. V." does not examine for eggs in midwinter! There are very few clocking queens at that date in this locality. *Idem.*—Is this theory as to spring drone-breeders sound? Where young queens are introduced in autumn, such would be capable of producing all the necessary brood, whilst supersedure queens are usually reared owing to the supposedly failing powers of the mother. Queens may be raised upon outside combs where the brood-nest has been distorted by, say, the addition of other combs containing brood for the heather-flow.

Hot Pot (page 406).—This reads accidentally as though the drones were a hot-tempered lot, and swarmed up like a boiling pot! Were the drones reared in worker-cells, or how did the combs come to be a mass of them? No wonder the stock dwindled, which would be the cheapest thing that could happen to it. It is bad enough to be stung by the workers, but Heaven forfend that the leisured drones should usurp their privilege!

Proof (page 406).—Is it not rather a sweeping assertion that experience has *proved* that bees purloin eggs? Of course it is a matter extremely difficult of proof, and evidence must almost of necessity be circumstantial.

"*Wells*" *Hives* (page 414).—Does not cutting the body-box do entirely away with the advantages claimed for the perforated dummy?

Isle of Wight Bee-trouble (page 414).—Now is the time for our friends to be up and doing. All hives worth keeping should be treated at once, and internally exposed for the rest of the winter to the kindly effect of sun and frost, turning them frequently so that the light may penetrate all corners.

Foul Brood (page 416).—The inference from Mr. Farmer's statements and pro-

cedure is that his bees must have foul brood before June. Every autumn he makes a clean sweep. He ceases treatment of stocks in June, when the disease also ceases. But where did it come from? Either from his neighbours or from his own still infected tackle. It is difficult to believe that stocks can become infected every spring from distant hives. Besides, his weak stocks develop it more readily than his strong ones. *Ergo*, they are not so likely to obtain it by robbing. By the way, does he not entirely misstate the general belief on the subject of strong stocks and disease?

Driving or Shaking (page 416).—Mr. Farmer appears to stick to the misuse of the term "driving" for the process of "shaking," in spite of the Editors' protest. But to do so is very confusing. My own foolish supposition (page 377) that his bees were kept in skep-hives was based upon his misuse of this term and that of "condemned bees." Let us be clear, and not nominate two entirely different processes by the same term when the difficulty can be so easily avoided.

Notices to Correspondents.

EXPERT (Glos.). — *Lectures on Bee-keeping.*—1. A lecture should occupy about one to one and a half hours, with half an hour at the close for answering questions and general conversation, if required. 2. The lecturer should arrange his own "headings" according to his knowledge of the subject, and not dwell long on the different sections of his discourse. As for "putting the cart before the horse," as stated, if "Expert" cannot avoid this with the help of his "notes," we fear it is out of our power to assist him. 3. The diagrams published by the B.B.K.A. are unfortunately now out of print. It might be possible to borrow a set from one of the many lecturers on bees who have the diagrams for their own use. We advise writing out the lecture in full—with the help of a "Guide Book"—then dividing the discourse into sections, with headings for each. We believe that Dr. Percy Sharp, Brant Broughton, Newark, lends out lantern slides for the use of lecturers, and may possibly have a set of diagrams to accompany the slides.

J. P. (Wallingford).—*Honey Damaged in Extractor.*—Your extractor must be of very unusual make to have any portion of the revolving parts "painted or japanned black." No leading manufacturer we know of paints any part of the interior work at all, but leaves the plain metal. When you write of the "top-bars" and the "ears" of an extractor we are not clear as to what is meant: but we agree that if all the iron-work is well tinned (not galvanised) the mischief complained of would be avoided.

C. L. (Oxon).—*Candy-making: Bro. Colomban's Receipe.*—Candy is good in quality, and will do very well for winter bee-food. For a first attempt it is very good indeed.

J. FAIRALL (Hellingly).—*Alien Queen Killed and Cast Out.*—The dead queen sent is a young one, and has been fertilised. It is certainly a Carniolan, but most of the hairs, or pubescence, have been pulled or rubbed off through her having been "balled" by the bees. The introduction of valuable alien queens should, if possible, be deferred till there are plenty of young bees in the hive, as it lessens the prospect of risk to the queen considerably.

P. C. H. (Lancashire).—*Improving the Colour of Honey.*—It has been proved by our Senior Editor that dark honey may be rendered light in colour, but the process of filtration is too costly and troublesome to make it of any commercial value to bee-keepers.

MISS H. T. (Stourport).—*Hives Broodless in October.*—There is nothing uncommon in hives being found broodless in October, especially in so adverse a season as that of this year. The fear of queenlessness may therefore be dismissed.

Honey Samples.

C. H. CURLING (Chiswick).—Sample is about third grade for quality. It is rather thin and has no characteristic flavour. For price, you can ascertain how current rates run by consulting our prepaid advertisement column.

J. D. (Birmingham).—No. 1 sample is good in colour, equally so in consistency, and very fair in flavour. We call it a good saleable clover-honey for table use. No. 2 has no flavour we can recognise. It may be foreign, and the fact of its remaining in liquid condition for over twelve months favours the assumption of its not being produced in this country. In no respect can it be compared with No. 1.

W. M. A. (Ellesmere).—Sample is fairly good in quality, and has a slight admixture of lime-honey in it.

Suspected Combs.

GEORGE DUNCAN (Dunmuir Mains, N.B.).—There is no foul brood in sample sent.

G. R. (Ayrshire).—Comb is affected with foul brood.

ANXIOUS SUSSEX BEE-KEEPER (Brighton).—The comb contains nothing but old, mouldy pollen. There is no disease in it.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Editorial, Notices, &c.

REVIEWS OF FOREIGN BEE-JOURNALS.

By "Nemo."

Difference between Carniolan and Caucasian Bees.—M. E. Bondonneau, the editor of *L'Apiculture Nouvelle*, in reply to a correspondent, says that Carniolan and Caucasian bees are very similar both in character and appearance. Carniolans are not quite so gentle, a trifle larger, and as to colour are rather bluish-black than blackish-brown like the Caucasians. The latter introduce large quantities of propolis into their hives and between the frames at certain seasons, whereas Carniolans hardly ever do so. Then, again, Caucasians are no better than the black for keeping out wax-moth, whereas Carniolans are as good as Italians in this respect, and know how to defend themselves against this enemy. In other respects the two races resemble each other, and generally they are easily mistaken.

Formic Acid in Honey.—M. Reidenbach has stated that formic acid was produced in brood-cells, but Dr. Bruennich points out in *Schweitzerische Bienenzeitung* that this theory cannot be sustained. The careful investigations of Dr. A. de Planta have clearly demonstrated its origin in the blood. A fact that controverts Reidenbach's theory is that formic acid is not found in the nectar of flowers, but it appears in the nectar when taken from the honey-sac of the bee and before it is converted into honey.

Black Brood.—We read in the *Schweitzerische Bienenzeitung* that this disease has made its appearance in the canton Aargau, so that it is gradually spreading over the Continent of Europe, and bee-keepers should be on the watch to prevent its getting a firm footing in an apiary.

In the same journal the returns are published of the amount of honey harvested in different cantons. These returns come from 262 different places and state the principal source from which the honey is derived, the quality of the harvest, whether good, bad, or moderate, the average per hive, and the largest amount from one hive, as well as the condition of the colonies at close of harvest. The largest quantity of honey gathered by one colony was 70 kilos (154½ lb.), at Itingen in canton Bâle.

Isle of Wight Bee-disease.—There is a report in the *Praktischer Wegweiser* of the observations carried on at sixteen stations in the Province of Brandenburg. The reporter, M. Kranepuhl, describes an outbreak of disease at Neudamm, one of the stations, and asks if this is not the same as the disease in the Isle of Wight, which has been described in the BRITISH BEE JOURNAL and reproduced on pages 267 and 306 of the *Praktischer Wegweiser*. He says the observation-hive at Station 10 was destroyed by a hitherto unknown and apparently dangerous disease. M. Schmidt, the observer, writes respecting it:—"The bees cluster together and die, are unable to fly, just as with the May pest, and the body was filled with a hard mass of pollen. Brood died just as in foul brood. As the colony died out from this disease the hive and contents were burned." Up to the present the disease has not spread to other colonies. After submitting samples to the Biological Institute for examination, it was pronounced not to be foul brood.

New Bee-journals.—In Italy a new bee-journal has been started, called *L'Avvenire Apicolo*, in the first number of which it is stated that its object is to give public instruction in bee-keeping, to promote legislation and suppressing the stifling of bees. In Spain two new papers have appeared—*La Gaceta Apicola de España* and *La Apicultora España*—and these replace *El Colmenero* and *El Apicoltor*, which have ceased to appear.

Composition of Nectar.—M. T. Weippl says in *Illustrierte Monatsblätter* that nectar is composed of from 60 to 80 per cent. of water, in which cane-sugar is dissolved, together with dextrin, mannite, gums, and essential oils, which give the aroma. The amount of nectar in plants is increased after rain, and is diminished in dry weather. For instance, in the fuchsia during showery weather there are 40 to 70 mm., but after three dry days there would be about 15 mm. The further one goes north from the equator the larger the amount of nectar secreted, and the same takes place in respect to height. The same plants therefore in the mountains secrete more nectar than those in the valleys.

One floret of red clover contains 7.93 mg. of nectar, 125 florets therefore produce 1 gramme, 125,000 1 kilo. Each head of clover consists of about 60 florets, therefore the bees must visit 7,500,000 florets to bring home 1 kilo of nectar.

Nectar is produced in the flowers only so long as fertilisation has not taken place, and as soon as this has been accomplished the flow of nectar ceases.

In the same journal the length of a common worker's tongue is given as 6.21 mm., and according to measurements made by M. Kulagin the lengths vary from 5.92 to 6.69 mm. He says the tongue of the Russian bee is 6.21 mm., of the American red-clover bee 6.22 mm., of the Italian bee 6.25 mm., and of the Cyprian bee 6.50 mm. Practically there is no difference.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

THE APHIS OR GREEN-FLY.

[6897.] Being a regular reader of the B.B.J., I noticed the discussion on the subject of honey-dew and the causes of it in the report of the Conversazione at Jermyn Street last month. As there appeared to be some uncertainty about the part played by the aphis, or green-fly, in the damage done to honey in autumn by the pest named, I enclose a copy of the *Fruit-grower* I had by me, as it seemed to me that bee-keepers would be interested to know something about this extraordinary insect. I have also thought it possible that as the leaves of lime trees are so often infested with the aphis there may be some sweet exudation that attracts these insects to the trees, in the same way that fruit trees are infested with them.—J. W., Cottenham, Cambridge.

[We gladly insert the following from the *Fruit-grower*.—EDS.]

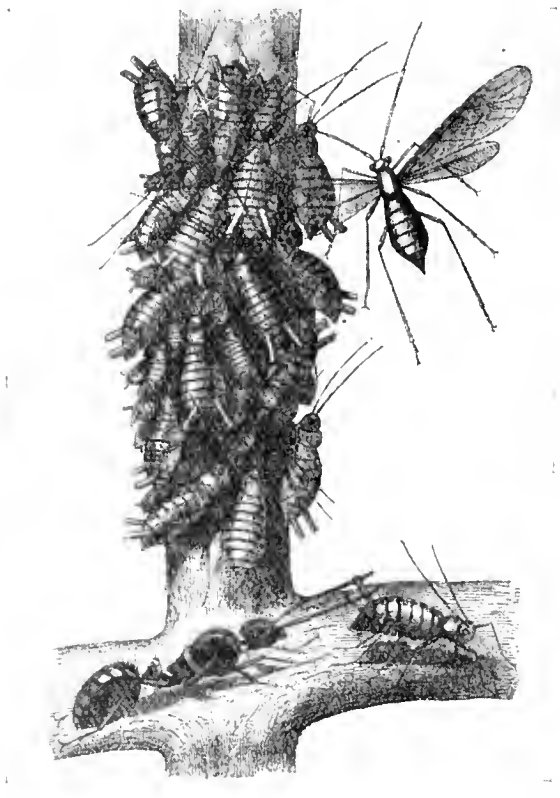
"In our correspondence columns a letter recently appeared expressing the doubts of the writer (notwithstanding all that has appeared in the *Fruit-grower* on the green and other flies that infest plant life to the great loss of the grower) as to the efficacy of spraying. Our correspondent is not yet quite able to understand how these pests appear as they do. We must allow that it requires much time and not a little patience to enable the grower to follow these insect pests through their life-history.

The great family of the true aphides belong to the Homoptera. This name is given because their wings, both back and front, when present, are alike, literally 'same-winged.' They belong to the division known to entomologists as Dimera, this signifying that the tarsus has only two joints. Another feature by which the aphis may be distinguished is that the antennæ or horns are long and slender. There is scarcely a plant that grows, either in wild or cultivated state, but has its own infestation of aphis, many kinds of plants having aphis peculiar to themselves alone. These parasites are to be found with and without wings. There have been many theories advanced as to the reasons for this phenomenon. Probably the true one is to be found in the theory that the wings are produced in order that at certain times the insects may migrate to lay their eggs on other plants or trees.

During the early spring months the eggs that were laid on the trees or plants in autumn and that have survived the winter hatch out, and for a time the insects so produced have the power of laying eggs. This is probably a provision of Nature whereby the danger of extinction of the insects by sudden intense frosts is obviated. In any case, later on the insects are propagated by a system called 'budding,' the aphis being then viviparous. This goes on until the autumn, when eggs are again laid. The resultant aphis which survive the winter begin their work of reproduction so soon as the weather conditions are favourable to the production of the necessary food. There seem to be few, if any, males present during the summer months, but as soon as autumn conditions prevail the males again make their appearance, and egg-laying commences. In the year 1743 Charles Bonnet made some careful observations and experiments, and found that a single female produced 90 young lice, the 90 produced 8,100, and these in the third generation give 729,000 lice. These produce 65,610,000, and the fifth generation of 590,490,000 will, barring accidents, produce 53,142,100,000, at the seventh a very little arithmetic will suffice to show 4,782,789,000,000, and, carrying this compound work on to the eighth generation, from one single aphis will have been produced the astounding total of 441,461,000,000,000. There are often eleven or more generations in a year, and when it is remembered that in a single plum orchard the season may be started with a few million individual aphis, the rapid destruction that ensues will not be wondered at.

Where should we be if Nature did not strike a balance? Our readers will see that, if only one egg escapes the soda potash spray, there will soon be aphis to take up the running. What, then, is the state of those trees that have been left to the chance that Nature will bring her own remedy? As soon as the insects are hatched they begin to live on the juices of the plants or trees on which they are hatched or born. This they do by inserting their suckers or trunks into the plant tissues, either of leaf or tender shoot, and the grower who sees the aphis in their billions on his trees or plants knows with certainty that every single one of them represents so much of the life-blood of his trees or plants that ought to have gone to produce wood, leaf or fruit.

The illustration accompanying this article (one by Louis Figuier) shows a magnified shoot covered with aphis. It will be observed that at the extremity of these insects are two small honey tubes. These are connected with a small gland that produces a sweet fluid. This is continually oozing out, and produces the honey-dew on plants, in which the soot fungus (*Capnodium salicinum*, Mont.) delights to grow, making the leaves of the tree appear as if soot had been distributed over them. The ant is supposed to eat the aphis, but this is a mistake. The presence of the ants indicates to the watchful man the presence also of the aphis or scale insect. The ant, by a process of milking, causes the aphis to exude more honey, which the ant takes for its own food and that of its young. Ants will also carry the aphis to pastures new, just



Magnified Shoot of Tree Covered with Aphis. (Ant shown Milking the Aphis.)

as a farmer takes his cows to a new meadow.

The remedies for this insect from the early summer onwards in the season are quassia and soft soap, soft soap alone, soft soap and sulphide of potassium, paraffin emulsion, naphthaline, paraffin and soft soap fluid, and for some varieties sprayings with Paris green or arsenite of soda. We believe the following formula, given as a coarse spray through the largest spraying nozzle, will be found effectual in most cases:—

Potassium sulphide 1 lb., soft soap 7 lb. (the best), soft water 50 gallons. This has the merit of being a fungicide as well as an insecticide. The soap should be dissolved in hot water, also the sulphide, and be made up to 50 gallons with water at 90 deg. The mixture should be applied while hot, and must be used as soon as made."

NOTES BY THE WAY.

[6898.] The "frame question" is again to the fore, and personally I am bound to admit that if obliged to use ten-frame hives I should be inclined to a deeper frame than the "standard." But as the largest part of my apiary consists of the "combination" style of hive, I am able to enlarge the brood-nest by inserting extra frames when required. In this way I not only extend the brood-nest, but enlarge the super space if I care to utilise it. Many years ago I had a few hives with the deeper frame, and these gave good results; but when the B.B.K.A. "standard" was fixed I adopted it, as the advantages of one size frame in the whole apiary was evident to a tyro.

Helping Isle of Wight Bee-keepers.—Your correspondent "Hants Bee" (6885, page 445) advocates driven bees being sent to the island. I grant these are cheapest from a cash point of view, but they often arrive to be built-up into stocks on foundation in September. Now, unless the Isle of Wight has later forage than we have in Berkshire, I fear the bees would be unable to secure sufficient natural pollen for their needs, and bee-keepers give no artificial pollen when feeding up driven bees; whilst they would be able to gather very little from natural sources, and some say this very disease may result from a deficiency of pollen. To give our island friends a good start, I should prefer sending them June swarms, and I have no doubt sympathising bee-friends would either present swarms or sell them at a reduced price to such of the poorer bee-keepers who have lost their bees.

Does Mr. Farmer give his bees artificial pollen when feeding-up for winter after driving? Both Scotch and larch firs, we know, attract winged insects in August and September, when the weather is warm. Among these are a few bees, many wasps, and still more flies. Probably the wasps are fly-catching and the bees after resin or propolis, but the flies I give up.

Queen-mating.—I had very few queens that failed to mate during the past season: in fact, fewer than usual. I attribute this to the fact that nearly all my queens were mated and laying before the swarming period was over. I do not believe that late-reared queens, even from a good strain, are so prolific or long-lived as those reared during June or early July.

Referring to Query 3634 (page 458), my

experience is that nucleus hives can be made to take six frames and a dummy, with entrances at opposite corners; this will house two small lots of bees, and if one is or should become weak, reversing the hive will equalise the colonies, and then, when one of the queens is removed, the centre thin ½-in. dummy can be taken out and form one colony.—W. WOODLEY, Beedon, Newbury.

THICK COMBS.

[6899.] I have pleasure in replying to Mr. Crawshaw's questions in last week's B.B.J. (page 459) on some points in my contribution on "Thick Combs" (6854, page 404). With regard to point No. 2, when I wrote that "a wide-spaced super would not be taken to so soon," I referred to supers filled with foundation, but even with wider frames filled with comb I have not observed bees begin work with the same alacrity as others with thinner combs. As to wastefulness (No. 3), Mr. Crawshaw is right: the honey and wax of deep cappings are not washed any more than when the honeycomb was broken up in the last generation; yet, if not waste, is it not poor economy for part of the cells to be cut off with the cappings, the wax of which might have been used by the bees to fill two extra frames had narrower frames been given? No. 4.—Again I had in my mind supers fitted with foundation, but if a stock is so strong as to be soon ready for two supers of wide frames, I contend that the same stock would be as soon ready to tackle a third super, and be less inclined to swarm, if all frames were spaced 1½ in. Nos. 5 and 6.—In a splendid season the difference in the work in wide or narrow frames, with either foundation or comb, is much less, as the consistency of the nectar is better and the temperature more favourable for rapidly ripening honey and lengthening cells; but in most of our seasons the ten-frame super will outdistance the eight-frame one, in time as well as in the quantity or quality of honey. Referring to No. 8, the question whether early market or extra-ripe honey is more desirable is more difficult to answer. Here I seem to be on a fence. Unless the honey is for competition, or a better price can be secured for the superior article, I think supers should be taken off as soon as they are well sealed. I have often kept the middleman waiting some weeks, thus, no doubt, gaining a good name, but losing hundredweights of honey, because hundreds of frames used but once during the season might have been extracted, returned to the hives, and refilled. Still, an early market is sometimes important, and with the use of thin combs the honey will be sooner ripe and fit for delivery.

I must add I was glad to read Mr. Woodley's experience (page 435) on thick and thin combs, and especially to learn that he has found the consistency of honey better in the thinner combs. I trust he thinks the same holds good with reference to sections, that as soon as they are sealed the thinner section contains better honey than the thick or the ordinary 2-in.; and I can assure him that this statement of his has more weight with me in determining the width of a 1-lb. section than the disappointing palaver I heard in Dairy Show week two years ago, when I was partly drawn up to town by the anticipation of a good discussion on "The Unequal Sizes of Sections" by the representatives of the British Bee-keepers' Association. — RICHARD M. LAMB, Burton Pidsea, Hull, November 16.

THE IMPORTANCE OF POLLEN.

[6900.] Referring to the paper read by Mr. Geo. Hayes at the late B.B.K.A. Conversazione, may I say that some time ago I carried out a series of experiments with pollen? My object in doing so was to ascertain if bees that have reached the imago stage are physically injured by being debarred from same. The result of these experiments led me to the conclusion that there are circumstances when bees are much better without pollen, and to give it them at such times causes physical suffering. And I asked myself the question, Does a virgin hatched in a nursery need pollen in her candy? The first experiment proved that artificial pollen (pea-flour) in candy made on the "Good" plan, *i.e.*, honey thickened with caster-sugar, caused the virgin and her few attendants to be badly affected with dysentery; while that made with fine oatmeal was not so bad in its effects. But cages supplied partly with pollen candy and partly with plain gave still better results, and those cages with plain "Good's," without any pollen at all, gave the best results. The query then arises, Are there not sufficient pollen-grains in honey alone to supply the needs of the adult bees?

My next experiment was in wintering stocks; and in this direction I found that driven bees placed on combs partly filled with honey, supplemented with plain candy, came out best; those placed on combs of honey with pea-flour candy to make up the shortage wintered the worst, those with oatmeal candy coming out midway between the two. I have also wintered stocks short of stores with pollen candy, and each time they suffered with dysentery, while those with plain candy wintered well.

(*Continued on page* 466.)

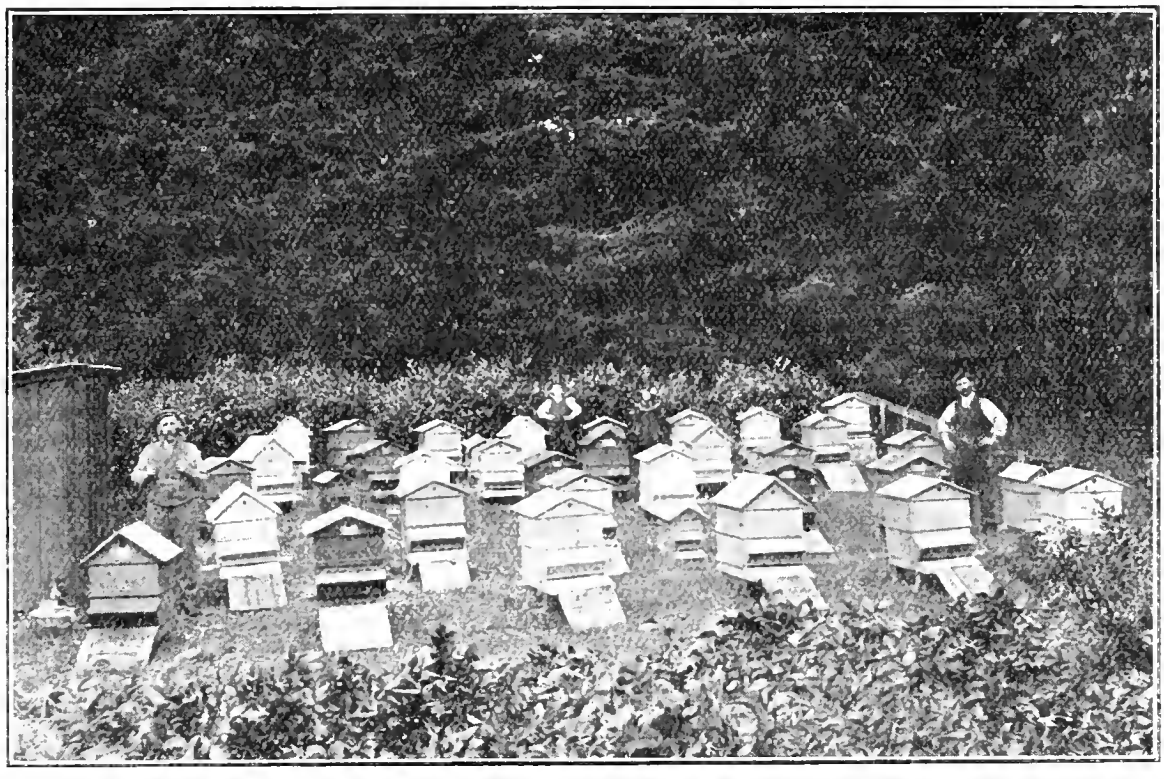
HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

Among the many bee-gardens shown in our "Homes of the Honey-bee," that of Mr. Rattray takes a worthy place, and we are glad to see it and himself, as a working gardener who can not only keep bees well, but make good hives. He says:

"I began bee-keeping eighteen years ago. I was living in Fifeshire at the time, and a friend made me a present of a second swarm, which I hived in a straw skep. The following season I had several swarms from my hive, but no honey: but by good luck I happened to see the *Bee-keepers' Record* advertised in a local bee-appliance dealer's catalogue, and I at once commenced taking it, and have been a regular reader ever since. In fact, anything I know about bee-keeping has been gained from its pages. On leaving Fifeshire, and coming to Blairgowrie in 1891, I had to dispose of all my bees except one stock, which I brought with me, and my present apiary has grown almost entirely from that stock. With regard to honey, most of my harvest comes from the heather, but in some seasons we get a fair 'take' from the clover in addition. In good seasons for the heather-crop I have taken over 100 lb. of surplus in sections from single colonies. The year 1907 was the very worst in all my past experience, so far as surplus section-honey goes, the average 'take' being about 6 lb. per hive. We had, however, three weeks of good weather in September, and the bees gathered very well from the heather: but it has been all stored in the brood-chambers below, so the bees are well supplied with stores for winter.

"I am glad to say we have never been troubled with 'foul brood' in this neighbourhood, but I have always used the preventives recommended in your papers when feeding in spring. I make my own hives, which are all of the 'W. B. C.' pattern. The roofs are covered with zinc, but instead of nailing it on, as is usually done, I prefer turning the zinc neatly under the edges of the roof. I find this plan prevents the metal from 'buckling' when exposed to the weather. My occupation as gardener here takes up all working hours; therefore my bee-work is mostly done in the evenings. We have no difficulty in disposing of the honey-crop, most of it being sent to Edinburgh, though I often send it to customers in the South of England. The hives seen are located at the east side of our house, and the figure standing beside the appliance-shed is myself, while at the opposite side is my nephew, who was on a holiday visit when photo was taken.



MR. DAVID RATTRAY'S APIARY, BLAIRGOWRIE, PERTHSHIRE, N.B.

"Our bees are all of a good black English strain. I once tried Italians, but found they were not nearly such good workers, especially on the heather, as the black bees, so I got rid of them without delay. The hives are all numbered, and I keep a 'notebook' with the corresponding number marked on the top of each left-hand page, such items as age of queen, time when requeened, date of swarming, and any other particulars concerning the hive being

carefully noted down. We have no special plan for controlling swarming, except by giving timely room and ventilation in advance. But we always like a few early swarms if the bees are especially strong in numbers; these are hived on the old stands, and the parent stock is divided into nuclei for re-queening in autumn."

("*Importance of Pollen*," *continued from page* 464.)

The results of this series of experiments have led me to the following conclusions:—1. Bees in confinement should not be pollen-fed. 2. During the time that bees are required to be kept perfectly quiet and very rarely take flight they need no pollen at all, and if fed on it will suffer in being unable to discharge the fæces, while if cleansing flights are not possible they will suffer in consequence. 3. That great care is required if pollen is given in early spring to cause brood-rearing, or the loss in unnecessary flights will counterbalance the gain in brood.—J. Gray, Long Eaton, November 11.

BEES IN WORCESTERSHIRE.

[6901.] I take up my pen with great pleasure to send a few notes of the past season in our part of Worcestershire. First let me say I am quite satisfied with the results in my own case. I commenced with three good stocks, from one of which a swarm came off on July 11, and about fifteen minutes afterwards another hive swarmed, and both lots of bees joined together in one cluster at the bottom of a thick gooseberry-bush. The two swarms filled a large skep, so I had rather an awkward job on hand. But I managed to divide them, and found both queens. One lot I sold, the other (which was the larger half I returned to the hive which swarmed last, and thus made up a very strong stock. Before returning the bees I examined the frames, and cut out all queen-cells. I then returned the supers, and propped the entrance up about 1½ in., so that the bees could pass in and out easily and get plenty of ventilation, which was much needed, as the bees were very numerous. The weather changed for the better the same day, and it was very warm and fine till July 22. Temperature from 70 deg. to 82 deg. Fahr. by day, but nights, most of them, much cooler.

A prime swarm weighing 6 lb. came off No. 3 hive on May 22, which I sold for 18s. on June 1. Two casts came off the same hive and united, which made a nice lot of 4½ lb. I caught one of the queens and put her in a matchbox, and kept her warm while I put the bees into a fresh hive, and examined the parent hive and cut out all queen-cells: then I let the spare queen run into the hive. Thus I now have four good stocks with 1907 queens, all laying well. My result for the season is as follows:—From No. 1 hive, a swarm and 10 lb. extracted honey; No. 2 hive, 45 lb. extracted honey; No. 3 hive, a swarm and two casts; No. 4 hive, twelve good sections and 8 lb. extracted honey. Sections sold at 1s. 6d. each; extracted sold at 1s. 3d. per 1-lb. bottle. Have sold none less. Last year I got 186 lb. of extracted honey and a few sections. Sold it all retail 1s. per lb.

This is not one of the best places for honey, as I am nearly 1,000 ft. above sea-level. The bees have to fetch most of the honey up hill from the valley below, as the land is very poor for a wide circle round—quite bare, common land. So those located in poor places need not despair. Keep good strong colonies, and if there is honey to be got the bees will get it, and in quick time too, whereas a weak stock would probably starve. The secret is bees in great numbers, and that is brought about by young, vigorous queens. I as a rule never touch the brood-chamber for honey.

I will finish by wishing every success to all bee-keepers everywhere, and to our valuable little journal. Shall be glad to hear how other bee-keepers have fared.—S. J. C., Clent, November 7.

THICK *VERSUS* THIN COMBS.

[6902.] For the first time, so far as I can remember, Mr. Woodley has written something that I cannot agree with, and that is as to honey from thick combs not being so well ripened as that from thin ones (*vide* "Notes by the Way," page 434). Perhaps he did not allow the combs to stay on hives till end of season, as I did. Being a busy man in other directions, I was only able to do my apiary-work in the evenings and on Saturday afternoons occasionally. For a good number of years I have extracted an average of over a ton of honey, most of it from thick combs, and I did not notice any difference between it and that extracted from thin ones, and I think no better-quality honey was produced anywhere. I have extracted and strained in one evening, single-handed, 300 lb. of honey, and, taking one season with another, had an average of 60 lb. of clover and lime honey per stock.

The Rev. Mr. Lamb (page 404) states that the wide-spaced frames will not be taken to as readily as the narrow-spaced ones. This may be true, but he erred in not giving ten frames for a start, and when the bees had got well to work on the foundation he should have taken one frame out, and another a day or two

after, if comb-building was going on; then at same time spacing wider apart the remainder of frames. In my opinion, the practice of running the uncapping-knife deep into thick combs is not a wasteful practice, but quite the opposite. No honey is wasted, and a big cake of the very best wax is obtained, and owing to the bees being kept busy at comb-building, they do not think of swarming. In twenty odd years I had only one swarm from hives so treated. I must also disagree with Mr. Lamb's statement that the quantity of honey will be less with thick combs than thin ones. At least half a dozen bee-keepers I know have been trying thick combs in supers during the past season on my recommendation, but will have to try again next year before they can report.

After all, I cannot for a moment doubt Mr. Woodley's judgment in the matter of density, or the Rev. Mr. Lamb's either, so must conclude that when rushed off for early market the honey may be a little thinner. But then arises another question, one which your two correspondents are just the men to answer, with their long experience. Is the honey in sections thinner than in the ordinary shallow-frames? I ask this because sections are thick combed, and, therefore, following their line of argument, the honey therein should be thinner. Have they noticed whether honey in bait sections is thinner than in those built from foundation?—NONDESCRIPT, Lancs.

NOTES FROM CORNWALL.

PREVENTING THE SPREAD OF FOUL BROOD.

[6903.] I have been writing in the B.B.J. for a long time, and if Mr. Crawshaw after such a long period thought I kept my bees in skeps he certainly has not read many of my contributions. Not having done so, he necessarily must misunderstand me, because one's views are not to be gathered from an odd article now and again; one's writings must be taken as a whole.

My position as regards foul brood amounts to this:—Although within three minutes' walk of my apiary foul brood remains unrestrained, yet I manage to avoid loss from the disease. This being so, I take it that any bee-man under like circumstances would not grumble if he escaped serious damage. I have from time to time told others how I do this, and hope that some have reason to be grateful to me; in fact, I *know* that some are. If I kept all these good things to myself I might reasonably be adversely criticised.

Driving (?) Bees.—As regards the term "driving," while I respect the views of Mr. Crawshaw—and none the less of our Editors—I personally see no reason why this convenient and expressive term should become obsolete so far as regards its exclusive connection with the old-fashioned skep. Language is evolved by degrees, and one method of growth consists in the extension of the meanings of words. I could name numerous words that in the natural growth of the English language have even entirely changed their meanings. It is a most fascinating pursuit to trace the derivation of words. I will give one instance of it. Take our familiar word "sky." This word is of very ancient derivation from a Gaelic word meaning a basket. In Ireland a basket is still called a "skea." The "sky" suggests an inverted basket, and to call it in Gaelic "the basket" was both poetical and expressive. I could write a long time on this interesting matter, but must respect your space.

Fresh Air and Disease.—Mr. Stapleton (6896, page 457) is correct, but in places that are storm-swept a *prevalence* of strong winds is adverse to the bees' health. Plenty of air without storms is what we require for our bees. Why do they not test Mr. Stapleton's "cure" in the Isle of Wight? Facts are what we require; experiments always teach something.—W. J. FARMER, Redruth.

ECHOES FROM THE PEAK.

[6904.] *The Logan-berry.*—As the raspberry is known to yield excellent honey, may I point out to readers of the B.B.J. that the American hybrid, the logan-berry, has exceptional claims as a bee-plant? I have a number of bushes near my hives, and when they are in bloom the bees give them most marked attention, appearing to get both honey and pollen in abundance, at a time, too, when other supplies are running low, the flowers being at their best before the raspberry is available. The bush in question yields a marketable fruit in great abundance. It is more acid than the raspberry, but in other respects is its superior. Plants are readily obtained through any nurseryman at 6d. each, and easily propagated from either "slips" or seed.

Fresh-air Cure for Foul Brood.—In support of this contention I give the following:—In September last I and others successfully removed two stocks of bees from under the roof-leads of Biggin House. They were known to have had undisturbed possession for upwards of a quarter of a century, and were in a healthy and vigorous state, the combs bearing no traces of any of the scourges so dreaded by many modern bee-keepers. The space they occupied extended over

seven or eight square yards, the two colonies being about five yards from each other. The depth available for the combs was about one foot. Does it not appear likely that their being free from disease was due to the abundance of air-space at their disposal?

Bee-sting Cure for Rheumatism.—A bee-keeper I know still suffers very much from rheumatism, although he bears the stinging process unflinchingly when following the craft.

My Result for 1907.—Almost nil. Had feeding been maintained in May, better luck would have been our lot.—BENJ. ABELL, Kirk Ireton, November 18.

STANDARD FRAME AND HIVE.

[6905.] My mention of standard hive on page 445 was a slip, the word "standard" before hive creeping in inadvertently. I am sorry for having brought your editorial cane on my back, but I take it meekly, having deserved it. I also quite agree with your remark in reply to "Minnesota" (page 454) that the only standard we require is the frame, and, after all, perhaps the one we have is the best, taking it as a standard for all districts. My only contention is that it is not the best for a good clover district. Our friend J. M. Ellis (page 456) kindly gives me and my "merrie men" a helping hand with his hundred-pounder hive (I think we may almost count him a member of our "band"). It does read queerly, though, to us clover men, his cutting off the spare inches and so making it a less productive hive when it comes to clover-honey again.

I have no idea of what Mr. Reid's hive is like, but if I was working for heather as well as clover honey I should use two sets of shallow-frames for the latter, and when the heather time came would take one away, filling the one left with brood as far as I could; then at end of season place the other set of combs underneath again, and by so doing would get a deeper clustering-box for winter. This would give room enough during clover season, and tend very much to stop swarming. I have now several stocks made up on this system. ROBIN HOOD, Lancashire, November 18.

"SOMETHING NEW"—HIVING SWARMS.

[6906.] Observing in last week's B.B.J. a paragraph on page 456 headed "Something New," perhaps you will allow me to describe the method of hiving swarms which I have adopted for several years, and is now practised by many bee-keepers to whom it has been recommended. It is well known that bees do not always choose the most convenient spot for their first resting-place, and sometimes swarms are difficult to secure, but in ordinary cases I use a light deal box, rather deeper than a section-rack. As soon as the bees have settled they are shaken into this box, which is at once set on the ground or on a table, as is most convenient. It is the work of a few seconds only to promptly place the hive immediately over the swarm in the hiving-box. Some of my friends use the bottom half of an American cheese-box, which is light to hold, but requires two small splines placed over it, on which to stand the hive securely. To allow the bees easy access a few small holes are made in the hiving-box. It is my practice in every case when a swarm is on the wing to rub a little honey on each comb or frame of foundation, which I find is an inducement for the bees to mount upward, and it is an acceptable help in the establishment of the new home.—A BEE-KEEPER FOR FIFTY-FIVE YEARS, Lowestoft, November 14.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Locating Robbers (page 417).—Is there any advantage over flour in the use of air-slaked lime? Is it easier to use for dusting the visitors, or does victory lie in its use in that the maraunders stay with their own commissariat rather than face powder? Would it be as effectual to drop lumps of *unslaked* lime on their heads and settle the matter in the twinkling of a brickbat? The exchange of hive may at certain times effect a cure by disposing of the field force of each, and I have endeavoured to avoid this contretemps by the substitution of a trap-hive for the robbed stock, making a nucleus of the result, or uniting it to the robbed at night after sufficient confinement. This plan has advantages where several assailant stocks are concerned in the foray.

Tainted Honey (page 427).—However it may arise, it is certainly true that honey left standing in some extractors becomes tainted and discoloured. Perhaps the crevice around the bottom has not been thoroughly dried at some time, and corrosion has set in, or the original plating was inferior. In the case of honey-tins, it is quite advisable to coat the interior with cheap wax. This may be done by heating the tin and allowing a quantity to flow over the inside surface, removing the excess. When cool, the interior is lined by a thin protective film of wax. The same process might be applied to the extractor, only the apparatus should

afterwards be washed out with cold water only!

Driven Bees (page 428).—If driven bees are "bees dispossessed of their combs," as Mr. Farmer so tersely expresses it, why not describe a natural swarm as "self-driven bees"? Or, again, when surplus is removed call the stock "partly-driven bees"! Or, should all their stores be stolen by their owner, "hard-driven bees"! Or, where too strong subjugative measures are used, "driven-from-home bees"! The only bees I take to the moors are *driven*, combs and all, in a cart! How would "removed bees" suit the case; or, in recognition of the speed with which the work is done, "despatched bees"?

£50 Reward (page 432).—Mr. Herrod's offer would appear to be a safe one. What analysis would distinguish between English and foreign honey as such? I have recently been in consultation over the matter, and I am convinced that no competent analyst would certify to the required effect. The difference between the various analyses of honeys is surprising, and no two would seem to be alike, yet the very range of these and allied substances renders the task of the analyst exceedingly difficult, if not impossible.

More About Driven Bees (page 435).—These are very pertinent questions by Mr. Woodley, and worth serious answer. But could not the bees be treated equally well in the spring? After having paid their rent, it would seem to be "treating them badly" to evict them! As the bees seem to develop disease in any case, why not simply work each hive up to the swarming-point and then shake them? That is, if the disease be the only cause for all this work. Certainly the bees would have a better chance of getting through the winter with their old combs and sealed stores than with newly-drawn foundation and unsealed syrup. But perhaps they are not wintered upon combs at all, or perhaps the old combs are given back to the bees after having been held in the fresh air for a few minutes!

Queries and Replies.

[3635.] *Checking Robbing.*—I should be very glad if you can give me any information in the B.B.J. with regard to the best method of putting a stop to bees robbing. We have here twelve hives in one row, and a short time ago the bees started robbing one stock so badly that the honey ran out of the hive on the alighting-board. I moved the hive about one hundred yards, which seems to have stopped them robbing that particular hive, but they have now started robbing two other hives, which stand in centre of same row. Any help you can give through the B.B.J. will be thankfully received. —W. M., Battle, Sussex.

Reply.—The "robbing" first mentioned must have been started by some accident to the combs inside the hive. In no other way can we account for "honey running out of the hive on to the alighting-board," and if the combs had been examined at the time of removing the robbed stock one hundred yards away the combs would no doubt have been found broken down, more or less. The removal of the hive would also cause the loss of a good many bees, because the field workers would be unable to find their way back to their hive and thus be lost. In an ordinary case where persistent robbing is started from other causes apart from a breakdown of combs, the best plan of stopping it is to sprinkle the bees well (from a fine-rose watering-can) with water in which half a teaspoonful of Calvert's No. 5 carbolic acid has been thoroughly mixed; and when the robbers have been soused with the carbolised water, turn the hive right round, front to back, for a time until the evening. Next morning it may be returned to its original position, and again sprinkled as before if the robbers show signs of returning to the attack.

[3636.] *Are Large Bee-houses an Advantage?*—May I ask your advice on the matter of a bee-house? I have to manage my bees away from home; therefore time is a great object. At present I have only thirty odd colonies, but being able to sell a good deal more honey than that number of stocks can produce, I am inclined to gradually increase until my apiary consists of eighty to a hundred stocks.

A bee-house seems to me to offer many advantages in management and time-saving. The only drawback that I can see is having to put the hives so close together, which perhaps would mean the loss of some queens when returning from their mating trips. Will you therefore kindly give me your valuable opinion as to whether a bee-house would be a success if managed properly? If you answer above in the affirmative, will you kindly reply to the following questions? 1. Is there more risk of disease spreading in a bee-house than in an out-of-door apiary? 2. Are eighty to a hundred colonies too many to put in one building? 3. How close together can the hives advantageously be put? 4. Could two rows of hives be worked one above another? 5. What shape of building would be most suitable—square, oblong, or octagonal?

6. Should the building be double-walled for warmth, or will single boards do, providing it is bee-tight, of course? 7. Could the hives stand on one long bench instead of each having a separate floor-board? 8. I have in mind the use of "W. B. C." brood-boxes and supers, and the advantage it would be to have the floor-board of each hive made movable in case of disease breaking out. Is this not so? Thanking you in anticipation of your kind help, I enclose name for reference and sign—AMATEUR, Worcestershire.

REPLY.—1. There can be no doubt that in any hands but those of a most careful and intelligent bee-keeper the risks of keeping a number of hives under one roof are much greater than if kept in the open. 2. In past numbers of our journal bee-houses of various forms and sizes have been illustrated from time to time, the largest, we think, being the one shown on page 315, vol. xxviii. It accommodates over fifty stocks, and the hives are in two tiers. This bee-house was constructed for the very purpose our correspondent has in view, and the owner gave full particulars of its construction, along with his method of preventing foul brood in a district greatly troubled by that disease. 3 and 4. Both these queries are answered by the illustration referred to, wherein the owner of the house in question has tested the points inquired about. 5. The only octagonal bee-house we know of is that shown in our "Homes of the Honey-bee" (page 293, vol. xxvii.). But that accommodates only fourteen stocks. We should say the oblong shape is best. 6. Single walls will afford ample protection. 7. Each hive must have a separate floor-board; indeed, separate stands would be preferable, as causing less disturbance to contiguous stocks. 8. Yes.

[3637.] *Self-made Bee-candy.*—I enclose small tin of self-made candy for your opinion as to its fitness for bee-food. If suitable it is more by luck than skill, as it is made from syrup I had on hand, to which has been added the extra sugar required by guesswork, without any measuring or weighing, and causing no less than three different boilings. It contains a little honey and, say, ½ lb. of wheat-flour. I have given each of two stocks a 4-lb. box of the mixture, and the bees seem to be taking it well, right or wrong. Perhaps you will in your B.B.J. say if it is suitable for bee-food? G. C., Sheffield.

REPLY.—If the materials used are wholesome and the bees take the food readily there is no reason why it should not be given to them as food. Its consistency as bee-candy is too thin, but if it will not run down over the combs it will be all right for wintering on.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

L. BIGG-WITHER (Somerset).—*German Bee-books.*—The publisher's address, together with price of the book named, appears on page 451 of last week's issue, a fact you have, no doubt, overlooked.

R. P. (Bristol).—*Assisting Lecturers on Bees and Bee-keeping.*—The set of lantern-slides used for illustrating lectures may be hired from the B.B.K.A. on application to the Secretary, 12, Hanover Square, London. The diagrams published by the Association are now out of print.

F. E. GREEN (Newdigate).—*Hedge-screen for Bees.*—1. On no account should a privet hedge be planted near bee-hives. Honey from privet is simply unfit for table use. 2. We thought the reply given on page 458 answered your query with regard to best position for nucleus hives—viz., a quiet, warm corner, as far from the bulk of your hives as convenient.

H. D. (Hitchin).—*Candy-making.*—Sample is not at all suitable for bee-food. We should like to know what recipe was followed in making.

Honey Samples.

WESTERNER (Somerset).—The sample in tin box is on a par with a good many similar ones from the firm you name. It has clover-honey in it, but can make no claim to be called "pure clover-honey." Some of the samples submitted to us are fairly good, while others are inferior. Our opinion is that the honey is imported from abroad, the flavour being different from any honey we have knowledge of gathered in the United Kingdom. Your own honey (as sample sent) has just sufficient heather flavour to make it a "heather blend"; but it begins to show signs of fermentation, and should be used before it goes much further in that direction.

T. C. M. (Surrey).—Sample has a slight admixture of lime-honey in it. The flavour is only poor, being deteriorated by honey-dew.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held at 105, Jermyn Street, S.W., on Thursday, the 21st inst., Mr. W. F. Reid (vice-chairman) presiding. There were also present Messrs. R. T. Andrews, W. Broughton Carr, J. B. Lamb, E. Walker, F. B. White, and the secretary. Apologies for inability to attend were received from Mr. T. W. Cowan, Miss Gayton, Mr. T. Bevan, Dr. Elliot, and Mr. H. Jonas.

The minutes of the previous meeting were read and confirmed. Two new members were elected, viz., Mr. Percy Francis Gostick, 10. Prospect Road, St. Albans; and Miss E. F. Kettelwell, 100, Broadhurst Gardens, South Hampstead.

The Finance Committee's report presented by Mr. Reid gave details of receipts and expenditure to date. It included a report upon three claims for loss and damage under the insurance scheme, viz.: one for £2 10s., the value of a dog stung to death at Epping, a second being for £8 4s., damages and expenses in connection with the stinging of a horse at Redruth; and a rather serious case in Cambridgeshire, connected with depreciation in the value of a horse, along with veterinary and other expenses during the period in which it could not be worked, amounting to £21 18s. 11d. All these cases had been inquired into, and the claims admitted by Messrs. Heath and Co. Cheques were drawn in settlement. The report of the Committee was approved.

Acting upon the recommendations of Examiners the Council agreed to award Third-class Expert Certificates to Miss Rose Saunders, Mr. Charles Goslin, and Mr. C. Reed.

The secretary stated that sixteen candidates had entered for examination for Second-class Certificates, and gave particulars of the arrangements made at the various centres. The report was adopted.

The draft schedule of prizes for the Bee Department of the Royal Show at Newcastle was considered, and the secretary instructed to submit the proposals for approval by the R.A.S.E.

The next meeting of the Council will be held on Thursday, December 19th.

IRISH DEPARTMENT OF AGRICULTURE.

HOW A SUBSIDY IS SPENT.

At the eleventh annual meeting of the Council of the Irish Department of Agriculture in Dublin, Mr. T. W. Russell, M.P., vice-president, said the work of the Irish Agricultural Organisation Society was subsidised from the departmental funds to the extent of £3,700 a year. He (Mr. Russell) knew little or nothing about the society's work, but one officer of the Department, who was paid £1,000 a year, devoted his time largely to looking after the expenditure of the £3,700 subsidy. "The most unbusinesslike arrangement," said Mr. Russell, "I ever came across." He criticised strongly the policy of subsidising such an organisation to enable it to compete with taxpayers. After discussion it was decided by 45 votes to 2 to continue the subsidy only for a limited number of years, the vice-president saying he did not wish to disrupt the organisation at once.

The Irish Agricultural Organisation Society in 1902 undertook the organising of co-operative societies of bee-keepers in Ireland. They sent an agent who did all the organising work, and when the Bee-keepers' Society was formed it became affiliated to the Irish Agricultural Organisation Society and also to the Irish Bee-keepers' Federation, Ltd. The latter was established in 1902, and all members holding 5s. shares in the local co-operative society of bee-keepers were to enjoy the same rights (except voting) as the holders of £1 shares in the Federation. How far this was carried out we are unable to say; but, owing to want of capital required to carry on the business, a special meeting was held on November 20th, 1906, when it was decided to transfer the business, assets, and liabilities to the Irish Poultry Federation, Ltd., and the hon. sec. was instructed to call a special general meeting on November 29th. We have seen no further reference to the Federation; but in December an advertisement appeared stating that "The Irish Federated Poultry Societies, Ltd.," had taken over the business of the "Irish Bee-keepers' Federation, Ltd." We have seen no further advertisements of the Irish Federated Poultry Societies, Ltd., but observe that the "Irish Producers, Ltd.," advertises from the same address. The secretary of the Irish Agricultural Organisation Society was also a member of the Board of the Irish Poultry Federation, and one of the founders of the Irish Bee-keepers' Federation.

It would be interesting to know how much of the capital was returned to the shareholders when the Federation was wound up: and how much it obtained, if anything, from the above subsidy?

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

AMONG THE BEES.

SUPERSEDING QUEENS.

[6907.] Two schools of thought exist, and seek to guide the apiarian world on this all-important question. The cleavage between the two is very pronounced. One would have all queens wiped out of existence periodically, under the specious plea that young queens are the best mothers. And they point to Nature in support of their contentions. The animal world is teeming with proofs that young mothers in the biped and quadruped prove the most reliable and prolific. Even the plant world illustrates the same truth in countless cases. A young "cutting" displays more vigour and growth, and yields far more and richer bloom than the parent plant. Man's hand, they contend, should do the supersedure, because man's brain is superior to that of the bee, and he knows how, when, and where queens should be deposed better than the bees.

On the other hand, quite a large "school" exists confident that Nature is the best and safest guide, and, believing as they do that her instinct is true and unerring, they would leave to the wonderful prescience and wisdom of the worker-bees to remedy any wrong when a queen-mother begins to fail in her powers of ovipositing. The expenses and labour attendant on the purchase or rearing of bees is saved the bee-keeper, and he can turn his energies into other branches of the industry, or follow the oft-repeated advice to "keep more bees," and, presumably, make more profit from keeping them.

I said there were these two schools of thought, but there is a third, midway between the two. Not that its votaries sit on the fence waiting, so to speak, to see how the cat is going to jump, because their opinions are formed, and they can hold tenaciously to them, and are able to give excellent reasons for the faith that is in them. Conserving the good of the two extremes, they prosecute a golden mean between. They, indeed, are the thinkers! The first class act under the impulse of one dominant idea, and carry out their rigid rule, as if it were like the law of the Medes and Persians, unalterable. "Young queens are the most prolific" is a prime doctrine in their creed; but it is more, for, logically carried out, it is the whole of it. Therefore, they reason, to have young queens you must have a periodic and wholesale destruction of all queens of a certain age, irrespective of fecundity.

The "middlemen," while believing in the doctrine as a safe guide, hold that there is no rule without an exception. Consequently, if a queen is doing excellent work, or even keeping well abreast of the majority of queens on hand, their guide is "Hands off!" such a queen, and her life is spared, enabling her to do good work in a future season. Perhaps, as frequently happens, she may take a place in the front rank.

Further, while the members of this last school recognise the marvellous prescience of the worker-bee, they know, as a matter of fact, that she can err—"To err is human." Therefore, what fault we can placidly ascribe to ourselves may be also attributed to the bee without any feeling of censure in the use of the phrase. At times, then, we (the bee-masters), knowing that the fruits of their errors may prove their undoing, step in and save them from extinction. From over-haste, it may be, in choosing a larva of too great an age, the resulting queen, when left to natural selection, proves abortive, inefficient, or not up to the best standard. Here the apiarian can, and does, right what is wrong, to his profit and that of the bee. Work and worry, as I have said before, wear out our best queens, many a time and oft, more than actual length of days. In such a case do not wait for the bees to put affairs on a proper footing, otherwise you lose valuable time. They have a certain fondness and affection, or at least a tender clinging, to their cherished head, which makes them reluctant to proceed to extreme measures until compulsion calls with a loud voice; and all this time the colony is running down in numbers and strength. The bee-keeper with a sharp eye can easily detect failing queens, even from outside observation, although inside investigation may serve to make his diagnosis doubly sure and more expeditious; and if he has a brain to plan he takes measures to rear or purchase a more prolific mother-bee, not leaving the work to Nature, but improving on it.

Here is a dictum worth studying and, I contend, practising—a *failing* queen is an "old" queen. When only a few months old, if she does not come up to a high standard, depose her; pinch her without the least remorse. Bee-keeping, I take it, is carried on mainly for the profit accruing. Poor queens never will make a profit. Good queens will. Therefore keep *good* queens. In the main, this advice really means keep young queens,

as they are undoubtedly the most prolific, *cæteris paribus*. I think this has always been the teaching of our JOURNAL, although we find professors of the two extreme schools of thought occasionally airing their convictions.

It is because I know many in the past suffered by following out extreme views to an illogical conclusion that I would now counsel the *via media*. It is, I consider, the common-sense view, which shuns any cast-iron code of action and does a thing because there is a reason why. This all-absorbing subject is occupying the minds of bee-keepers all the world over at the present time. In far-away New Zealand and Australia, in Canada and the United States, as well as at home, wherever bee-men congregate, it forms food for animated debate, and produces divergent views. Its value is immense, and the more it is discussed in convention, in bee magazine or review, the more true light is likely to be shed on it; and the more light, the better for apicultural success and profit.—D. M. M., Banff.

NOTES FROM CORNWALL.

[6908.] *Pollen for Driven Bees.*—In reply to Mr. Woodley's query on page 463 in last week's B.B.J., I may say that, according to my personal experience, bees driven in mid-August require no artificial pollen; but in mid-September, when the weather may be very wet, some substitute for natural pollen should, I think, be given. I use whole wheatmeal in my bee-candy, with first-class results. It is not so apt to get stodgy as ordinary white flour, and agrees as well with bees as it does with men.

I intended to incorporate in my last notes the fact that the term "skep" is derived from the same root as the word "sky." The skep was originally a basket of wickerwork daubed with clay, and when straw was used in lieu of wickerwork the original name was retained.

Confusion in Terms.—The straw skep is now passing away, but I think we have need of the word "driving" to describe the operation of getting bees off their combs. Getting them off is neither "shaking" nor "brushing" alone, but a combination of the two operations, and I do not know of any other word as convenient as "driving" to describe this process. This is of course my personal view of the matter, and those who differ will not, I trust, consider me guilty of any wish to cause confusion in terms. My object is simply to give reasons for what I do. Similarly as regards the treatment of my bees; the course I pursue is that which experience has commended to me. I do not say that it is the best method possible. I have found it the best so far, but will adopt a better way if found.*

Fresh Air as a Preventive of Disease.—I believe it is a fact that our hive-bees originally built in the open air in warm countries, and that the very best way to keep bees in hives is to give them all the air possible. Stocks must, however, be very full of bees to build up, if given a great deal of air-space. To give space *underneath* the cluster will be found very beneficial to all stocks; indeed, it has been advocated by well-known authorities for many years past.

I find a good deal of interest in experimenting, more so than in following the beaten track. Sometimes these experiments are unsuccessful, but one learns much from failures, and I strongly recommend others to test this method for themselves *after* they have mastered the rudiments of bee-keeping.

Baby Mating-boxes. — Some have recently pronounced against the use of these for this country, but I have found that with three sections cut down to normal width of brood-combs the raising and mating of queens is a great success, and in these little baby-boxes bees gather even full sections of honey as they increase in numbers; so that they need three additional small frames in order to give room enough. I could build up a full stock from such a baby lot if given time enough. The bees experimented with in this direction were natives. — W. J. FARMER, Redruth.

A BIG "FIND" OF HONEY.

[6909.] Some time ago a swarm of bees belonging to Mr. Matt. Bewley, Tunstall Reservoir House, Wolsingham, took possession of a recess above the bay window of the house, the aperture by which the bees gained access to their new home being a very small hole at the juncture of the wall-plate and the boarding upon which the slates are fixed, and was such that only one bee could go either in or out, and, as the house happens to be situated in close proximity to the public highway, many people have watched the busy workers going to and fro (with curiosity, and some with fear and trembling) when the weather was fine. As the bees were very strong, the owner decided to

* We hope Mr. Farmer will excuse us for requesting him to adopt the term used in the U.S.A. for "getting bees off their combs," as he puts it. Our American friends decline to adopt the term "driving" as being suitable for shaking or brushing bees off their combs. Moreover, they are perfectly right in their objection; the bees in their case are not "driven," but shaken, and swarms so dealt with are properly termed "shook" swarms. Having said this much, we may say our wish, in closing the subject, is to avoid confusion among B.B.J. readers who, like ourselves, do not care for new names unless really needed.—[EDS.]

dislodge them from their elevated position, and remove any honey there might be located there. The services of J. Watson Egglestone, of Bishop Auckland, and late of Consett, were readily forthcoming, and he undertook a few days ago to perform the operation. After he had removed fourteen slates and some 1-in. boarding at the angle of the window—by the by, the latter operation did not at all improve the temper of the bees, which was not of the best, as the weather was not ideal (November 9) for the job from a bee-keeper's standpoint—the sight revealed to view was one which will be long remembered, and which many a bee-keeper would have coveted, especially at the close of the disastrous season of 1907. Had frames been fitted with full sheets of foundation they could not have been more perfect, and the combs were perfectly straight and beautifully sealed, and also nicely covered by a large, strong colony of bees. As comb after comb was taken out, the bees from each were put into an old skep until nearly four stone of prime honey, &c., had been handed down the ladder, and the queen and a large percentage of her followers had been safely housed in another hive. Mr. J. Parker ably replaced the breach in the roof, and Mr. Matt. Bewley rendered valuable assistance during all the operations.—J. Watson Egglestone, Bishop Auckland.

RENEWING COMBS ANNUALLY.

[6910.] Your correspondent Mr. Farmer is well known to Journal readers as an advocate of the annual renewal of combs, or, as Mr. Crawshaw says in "Cappings" (page 460), "every autumn he (Mr. Farmer) makes a clean sweep"; but when the latter seeks to justify himself by giving us his profit and loss wax-account he says (6880, page 437) "the majority of the combs had been bred in *for two seasons.*" Is there not confusion worse confounded here?

A New Experience with Foul Brood.—In the autumn of 1906 I was offered some bees known to be affected with foul brood, and I accepted the offer. Having driven the bees and kept them in quarantine for *a whole week*, I put them in a clean hive, and fed them with medicated syrup; but there was a distinct appearance of foul brood again this year.

Foreign Bees.—I have also had my first experience with "Italian" bees; they were sufficiently waspish to incline one to think they might have been a first cross that way. Having kept them from crossing with the natives, I have now deposed the queen. I have also experimented with the Tunisian bee, and really never saw such breeders as they turned out to be, and very gentle to boot; in fact, a great deal *too gentle* for my taste. Again and again have I had to clear the floorboard of dead and dying, and hundreds would crawl to the flight-board and on to the ground, which seemed shiny and moving with them; and now my motto is "English bees for the English climate." Enclosing name for reference, I sign—Cornish, St. Austell, November 25.

PROSPECTIVE AND RETROSPECTIVE

SWARMS FOR THE ISLE OF WIGHT.

[6911.] In reference to Mr. W. Woodley's suggestion, on page 463 of B.B.J., last week, regarding the proposed help to Isle of Wight bee-keepers who have lost their bees, I shall be very pleased to give my first swarm, if the secretary of the Hants Bee-keepers' Association will send me the address of a deserving case, between now and May. I have not any special breed of bees to offer, as mine are all of the common variety indigenous to this country. Although they failed to gather much surplus this year of famine, 40 per cent. of my stock swarmed, all being extra large swarms, one alone weighing, with new skep in which it was hived, no less than 14 lb.

The orthodox methods of preventing swarms failed with me this year for the first time, as all had two surplus-chambers on.—David Hancox, Deddington, Oxon.

(*Correspondence continued on page* 476.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

Mr. Finlay's "notes" are so complete as to need no addition from us. He says:—

"Although I have been a bee-keeper and reader of the British Bee Journal for about a quarter of a century, I have not done much in the way of correspondence, writing for print being out of my line. Not only so, but, when in trouble with the bees, I generally find in the Journal or 'Guide Book' just the information wanted. I sometimes read over the back numbers, and am surprised at the information that can be gathered from them which seems new to me and very useful too. This by way of preface.

"My first start, however, was brought about by a friend who knew I could do a bit of joinering and so could make my own hives, and had a garden to keep them in, besides being in the grocery business, and thus able to sell my own honey. He thought this a nice combination, as it undoubtedly was, but I was not very much smitten with the idea until he lent me a book on bee-keeping, and after reading this I got the bee-fever very badly, and with the help of a few old

boxes made a hive, then ordered a swarm: but when the bees arrived my first trouble began. There was no one about to help me hive the bees, a job I had never seen done. However, not liking to show the white feather, I got a pair of old leather gloves, tacked up a bee-veil, and commenced operations. I had been told to throw the bees out in front of the hive and watch carefully to see the queen run in, &c., but in my excitement I saw a big bee fly away, which at once I judged to be the queen, and was sure the bees would follow and be lost. But they marched into the hive all right, so I had evidently been mistaken. I soon acquired confidence and gave up wearing gloves, but still use a veil when removing honey, for a sting about my eye turns it black, and shopkeepers with a black eye give customers a chance for making humorous remarks against the evils of fisticuffs.

"I got a few sections the first year, and, being encouraged to go on, worked in my spare time the following winter making more hives. I make them 20 in. long and 17½ in. wide inside measure, thus holding twelve frames and a dummy. Thus, when using ten frames in brood-box, it gives room to move the frames back when manipulating, but I like to have twelve frames packed with brood when the honey-flow commences.

"By giving plenty of room in advance I seldom get more swarms than are wanted, but I think the bees are all the better if allowed to swarm occasionally, as they seem to work with more spirit. My bees are all natives. I do not care about the foreign races unless it be to take to the heather; I also think they are great at robbing. On one occasion two friends and myself took a couple of hives each to the heather, one of mine being a foreign lot. The season turned out wet and cold, and my foreign stock simply appropriated the honey belonging to the lot! At any rate, it was the only one that had any honey at all in store when the hives were brought home from the moors. But it is not all profit going to the heather. A good many years ago the bee-keepers of the district made a combined effort to protect the bees at the 'fells.' They built a wooden house and engaged a watcher to live there for six weeks in the autumn, each bee-keeper paying a certain sum per hive to cover expenses. The plan worked well for a few years, but unfortunately a hive affected with foul brood was sent among others, and as there were at times 150 to 250 hives standing close together you can imagine the result. I got a share of the disease along with others, and not knowing much about the methods of curing at that time, I tried washing the inside of hives with carbolic solution, cutting out diseased combs and substituting foundation, but when they filled the new combs with brood it was as bad as ever. This lasted for two seasons, during which I got very little honey, and as the bees were weak I smothered them, broke up the hives and frames, burned the lot, and made a new start. I have not been bothered much with foul brood since, but

MR. JAS. FINLAY'S APIARY, HENSINGHAM, CUMBERLAND.

we still have it in the neighbourhood, so I wash all hives out each spring with carbolic solution, and use naphthaline in each hive. It is a pity there cannot be some means adopted for doing away with all diseased stocks of bees. This made an end of the associated effort, for the last time the watcher went to take in the hives he found that someone had burned the house down, nothing being left but the lock and hinges.

"I work mostly for section-honey, but am never able to secure such large returns as are sometimes reported in the JOURNAL. On the other hand, I never had a season in which the surplus did not more than cover expenses. As a rule there is a nice balance left. Most of my honey is sold retail at 1s. per 1-lb. jar or well-filled section. I have sold some wholesale at 9s. per dozen when I had an extra good season. In my case one season's crop is generally sold out before another is ready. Bee-keeping is, to my mind, the best paying of all hobbies. I have read somewhere that 'bee-keeping is the only honest way in which a man can steal his living.' It's a bit of a paradox, but has some truth in it, if we admit that we reap our crops from other people's sowings.

"In conclusion I may say the year 1907 has been the worst season for honey around here that I remember, but I kept on feeding during the wet weather at the time when honey should have been coming in, so I got a few sections filled during the short spell of warm weather we had when the season should have been over.

"I only keep a few hives, my room and time being limited, so they are as many as I can manage properly. Wishing that all readers may have a good season in 1908."

(*Correspondence continued from page* 474)

AMONG THE BEE-HIVES.

A BEE-NOTE FROM THE MUIR-OF-ORD.

[6912.] Like other Ross-shire bee-keepers, the past season has been to me a very disappointing one. The cold and sunless summer has caused serious losses to arable farmers in the shape of light grain, and, curiously enough, has caused great numbers of turnips to run to seed (a most unusual thing), so that those, like myself, who are farmers as well as bee-men have double cause to grumble. There is no doubt that before the white clover makes its appearance next June a large addition will be made to the number of bee-less boxes that already exist all over our part of the country. Those of us who get the B.B.J. have been well warned as to what will happen if we neglect to give the necessary attention and help to our bees where required; but then the majority of those who keep bees in our neighbourhood do not get the JOURNAL, nor even know that there is such a paper in existence.

To many who, like myself, have a large number of stocks that may be requiring assistance, the prospect is certainly a bit discouraging. The difficulties or disappointments of last season were caused by long-continued low temperature, and the same trouble is now before us.

It is not easy sometimes for bee-keepers to know the exact condition of the interior of their hives, and I think that in a season like this any arrangement which would help us to do so would be a general source of comfort. It is because of the frequent reference to this subject recently in our esteemed BEE JOURNAL that I venture to offer a few comments. I have had considerable experience of the value of winter-passages over the frames covered with celluloid, and had the pleasure once of showing this arrangement to our friend "D. M. M.," who commented favourably on it at the time in the B.B.J. There are many contrivances in use for covering tops of frames, among them the celluloid quilt, which when laid flat on the frames affords the means for observation only. Pushing sticks under to procure a bee-passage is a very clumsy and unsatisfactory operation; so is taking them out and straightening down the celluloid again. Then there is the ordinary quilt with sticks pushed under, which gives the bee-passage only. Next we have the glass cover or quilt, which, laid flat on the frames, would give means of observation without the bee-passage; if laid upon strips of wood it would give the bee-passage all over the frames, which allows too much escape of heat from the cluster. Glass is expensive, bad for ventilation, and unpleasant to handle. Another contrivance (Hill's device) I have seen only in appliance dealers' lists. To me it seems to provide the bee-passage only, with perhaps room for brace-combs. It will also cause disturbance of the quilt in putting in and taking out, with the usual results. In my opinion, a winter and spring covering for frames should combine the bee-passage, means for observation, facilities for feeding, and be suitable for right ventilation. These four essentials are secured in the arrangement I use, which I will now endeavour to describe seriatim:—1. To secure the right depth for the bee-passage, the wood used for the cover should not be more than $\frac{3}{8}$ in. thick, and of sufficient area to cover the tops of the frames. 2. The cover should lie flat on the top of the quilt, so that if strips of wood are used to keep

the cover together they should lie on the upper side and at the ends. 3. An opening, say, 12 in. by 6 in., or the size desired for the bee-passage, should be made in the centre of the cover. 4. Means for observation are got by covering the opening with celluloid or glass. I prefer glass, because it answers better for giving the third essential—facilities for feeding. Four pieces of glass, 6½ in. by 2 in., laid across the opening are better than one piece, because it is better for ventilation, and the piece which is nearest to the cluster can be removed or pushed aside when feeding has to be done. Now for right ventilation. I think this is got by using for the cover light porous wood, the opening to be covered with four pieces of glass instead of one, and the whole to be covered with a chaff pillow or cushion, or any other porous, warm material. If this is properly done one can feel the wood quite warm by pushing the hand between it and the cushion, thus, I hold, proving that sufficient ventilation is secured without causing a draught. If, however, more was considered necessary the pieces of glass could be placed a little apart. 5. In putting on this cover the quilt should not be lifted at the edges, but the opening in it should be made with a sharp penknife or small scissors, and should correspond in size to the one in the cover. 6. This undisturbed part of the quilt with the cover resting on it prevents to a great extent the escape of heat from the cluster, which could not be said of a space all over the frames. 7. When the happy time comes round again for putting on the section-racks the cover can be lifted off without any difficulty, as the bees cannot fix it down. 8. You can also know when to put the sections on, because it can be easily seen when the honey-flow begins. Finally, the point which appeals most to me is that I can have a peep inside any time I like, even on the coldest day in winter, without causing any harm or disturbance.

Now, dear brother and sister bee-keepers, especially those of you who, like myself, believe in the pleasures of bee-keeping, if you care to try this plan of mine I think that you will find it calculated to make winter and spring bee-keeping much more interesting, besides answering the other useful purposes I claim for it. It might be better, however, to wait a week or two just to see what brother Crawshaw may have to say about it. I have learned from experience that often when I thought I had got a thing right and complete I afterwards found out I was wrong; so I have come to the conclusion that there is no finality in anything, unless it may be found in the existing dimensions of our standard frame. I have also come to the conclusion of my "comments."—A. Reid, Balloan, Muir-of-Ord, N.B.

HAMPSHIRE NOTES.

[6913.] *The Foul Brood Question.*—This ever-recurring subject leads one to ask what real and solid advance has been made by way of finding an absolute cure of this insidious disease. In other words, is there anyone among the vast army of bee-keepers who seriously believes it possible to entirely exterminate it? I certainly expect this second question to be answered in the negative, and without hesitation, too, by all who have managed large apiaries for any length of time. I candidly admit that I have long ago cast away as utterly useless any idea of absolute cure, and for some years have also left off using (so-called) preventive measures, including naphthol beta, naphthaline, &c. All these have failed in the sense that they never cured the disease. I proved to my own satisfaction that the more one "messed" with them, the more the disease spread through my apiary. This was in my early days, when I was overflowing with zeal in the craft. Yes, "overflowing" is the word; too much of it. But with all my zeal, and by the use of these cures and preventives used in the most up-to-date way, I failed to cure one single colony. To check disease is not to cure it, and the checking may or may not be difficult, seeing that so much depends on the methods followed, season, &c. I therefore again ask, Is there an exterminator of foul brood? For myself, I will answer in the negative, and say in plain English what I believe is the conclusion of the matter, and which doubtless many others like me believe, though have not spoken out. My opinion is that it is just as impossible to cure foul brood as it is the many diseases which the human body is subject to. If a child is smitten with fever, no amount of medicine will cure it. The fever passes through its various stages, and, it may be, ends in the death of its victim, or may be otherwise; but, in any case, the disease has found a medium whereby it can propagate its species, and it does it thoroughly, and then passes on to other victims, unless it is destroyed in uncongenial elements. Will someone therefore tell us for a certainty what are the congenial elements for the propagation of the spores of foul brood? Some imagine old combs, but who is sure? I am not. On the other hand, let me say, I this year bought a swarm which to my personal knowledge came from a fixed-comb hive of fifteen years' standing. I have known plenty of colonies to go on for ten years and do splendidly on the same set of combs, and without a trace of disease. Another question: If a colony takes disease, and the bees are allowed to remain on the same set of combs with or without treatment, do they always suc-

cumb? I will be bold enough to answer my own question and say "Yes," though I would not say how long it would take. It is at times but a very short cut to the final stage, while at others the colony is a useful and paying one for years.

I have long ago discarded the wholesale destruction plan, and look upon it now as the height of folly where only a few diseased cells are present. What I consider the best plan is as follows:—Should foul brood be discovered in spring, take note of it and watch progress. In a fair season it might do a lot of work; then when it becomes strong enough to super, do so, and super hard, if I may use the term—that is, give plenty of room above the brood-nest, so that most of the honey may be stored there, to be removed by the extractor. Then choose a warm autumn day, as late in the evening as possible, shake bees from diseased combs on to half a dozen clean ones, some of which must contain pollen, then feed up. This will prolong the life of the colony, though I do not say it will be cured. Should the disease make rapid headway after it is discovered, destroy the stock without hesitation.

I notice that at the late B.B.K.A. Conversazione the question of pollen for driven bees was dealt with as an important one. I myself called attention to it in my last "Notes," having noticed that many seemed to ignore it when making up colonies from driven bees.—Owen Browning, Kingsomborne.

[We print the above without comment beyond saying that, while failing to see the force of Mr. Browning's peculiar logic, we do not share his views as expressed above in any single particular. Indeed, we fear he is getting a little out of his depth in discussing scientific theories with regard to diseases. Perhaps some readers who have had experience with the subject of using preventives on a large scale will favour us with their views.—Eds.]

THE BEE-SEASON IN BANFFSHIRE.

[6914.] The bee-season now finished may safely be recorded as the poorest on record in this part of Banffshire. Lack of sunshine, cold, and almost continual rain during April, May, and June necessitated heavy feeding with most stocks during the latter half of May, and with all stocks right through the whole of June. Those kept on the "let alone" system (and it is surprising how many stocks are still so kept) died out altogether. Where careful feeding was resorted to, notwithstanding the cold and wet, stocks were teeming with bees when the clover-flow came in the second week of July, and feeders had to be removed, and crates of sections piled on two, three, and even four deep, and honey came in so fast that they looked like breaking last year's record; but unfortunately the fine bee-weather lasted for only eight days, and was followed by cold, sunless weather, with short, intermittent blinks of sunshine, right on to the end of August. Breeding stopped entirely towards the end of August. September was fine throughout, and breeding restarted, and continued until about the middle of October; but the heather bloom was very poor, and what little the bees gathered from it was stored in the otherwise almost empty brood-nests. But with a few pounds of sugar-syrup added during the last week of September and the first week of October, it should be sufficient to tide them on to May next year. Many stocks have given no surplus whatever. Not only so, but where no assistance in the shape of syrup or candy has been given, they will die off before spring; others have given only a few pounds. The best I know of is a single stock located in the centre of a field of splendid white clover, which has given forty-eight well-finished sections. My own thirteen stocks have given an average of 27 lb. per hive, which has been disposed of as follows:—Extracted honey, per 1-lb. jar, 1s.; clover sections, 1s. to 1s. 3d. per section. Sections were very much travel-stained and patchy—not at all well finished; but the quality of the honey, both extracted and in sections, was fairly good.—W. Moir, Grange Station, N.B., November 25.

DEALING WITH ROBBER-BEES.

[6915.] There can be no harm, if you have no objection, in my giving your correspondent "W. M., Battle" (3635, page 469), the simple mode I adopt when dealing with robber-bees, which is as follows:—Seeing irritation at the entrance of attacked hives, I close entrance to ½ in., then lightly dredge the bees near the entrance with flour, not once, but half a score times if they still keep coming on, and if this is neatly done just watch the robbers slink to their own hives as if ashamed at having got a load on they never started out for. Then there is another thought which occurs to me:—Is it nonsense to hint that bees may be infected with kleptomania—that is, an irresistible propensity to steal? If that is possible, then our next best plan is to pity rather than blame them. Everyone seems to detest robbing except those benefited, and the latter when caught only seem to indulge in a sort of mock sorrow.—G. C., Sheffield, November 23.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Black Brood (page 436).—How far has this disease spread in this country? There are isolated reports of it, but is it not possible that some of these at least are mistaken diagnoses? It might be instructive this winter to have a general report from county experts and from individuals having cases, with conjectures as to the source of infection, and a synopsis of what has been ascertained of the disease. I suggest the last in the belief that very little is known about it by the general run of bee-keepers. "Will brother bee-keepers oblige for scientific purposes?"

Bees "Balling" Queens (page 437).—At a recent show I discovered in one of the observatory exhibits a "ball," or rather a *disc*, of bees, which was induced to break up by the persuasion of a little tobacco smoke. Probably the queen had been confined for some time, yet when released she trotted energetically off, as though nothing had happened. Perhaps the contracted space between the comb and the glass prevented an effectual "balling."

Plurality of Queens (page 444).—If this system proves satisfactory it might still be economy to keep the queens separated by excluder. Then if each queen had less than a ten-standard-frame brood-nest, she would keep it well filled, and no time would be wasted by her hunting for cells on her neighbour's beat. If swarming be really prevented by this method, no disadvantage would accrue from the reduction of the individual range by excluder, whilst the number of queens could be more easily ascertained at any time. If not removed what happens to these surplus queens in winter? Is it not certain that all but one will disappear? We cannot alter an ancient habit of life in five minutes!

Frames without Bottom Bars (page 445).—"Robin Hood" does not say how the extra strip is to be fastened to the original comb. Bottom-bars might perhaps be dispensed with in the case of old, tough combs, but if a comb should become attached to the hive there is no surety that it would break free at the right place. This recrudescence of frame discussion is not surprising, for the standard frame is only a compromise, although for a very important purpose, and compromises never please extremists. So that, under special conditions, it may be either too large or too small! The fact is that almost any frame can be made to give good results in right hands. But if the size of frame be not altered to fit a special system, then the management must of necessity adapt itself to the frame.

Isle of Wight Bee-disease (page 446).—Why does "Hants Bee" refer to this as "unnamable"? The disease is bad enough, in all conscience, but surely not unnamable! Or is it that he has a conscientious objection to "Maikrankheit"? Whether this prove to be the right term or not, the disease is hardly *nameless;* so many folk seem to have, and rightly, called it *names!*

A Glass Extractor (page 446).—This is not a very practicable material for an extractor. To make such a carboy would be costly, and the work of fitting it up would be difficult. The suggested tripod is not practicable, as it would not be stable. If such a body could be made, the fittings—centre, honey-gate, and lugs—would have to be drilled for, and held by nuts or rivets.

Knapweed (page 447).—I shall have a greater respect in the future for this weed, presumably *Centaurea nigra.* I do not, however, think that it yields honey so freely here in the North. For stocks to gather enough from it for winter stores after mid-August ranks it as a valuable plant. Will Mr. Farmer tell us what is the subsoil upon which it does so well and why there is such a lot of it? He is indeed fortunate in his location, as I presume that, apart from heather districts, there are few such where bees can build up naturally on foundation alone after mid-August. Another of this family (*Centaurea montana*) is referred to (page 458) as yielding honey on a chalky soil.

Queries and Replies.

[3638.] *Queens Cast Out in November.*—I am writing to ask your opinion why the enclosed two queens should be found outside of hives so late in the season as November. No. 1 queen was given to me by a friend for introducing to a queenless stock. I confined her in a cage for about thirty hours, released her, but two days later I found the queen on the ground in front of hive. I therefore ask:—Is she fertile, and what age would you suppose her to be? The other queen (No. 2) when found on the ground was only slightly chilled. I took her into the house and got her warmed up, when she became quite lively. This was at noon, when all the other hives were quiet—not a bee on the wing—but the bees of the hive in question were running about the hive-front greatly agitated, many of them flying a short distance and then returning. This went on for some time, some bees still running about front of hive after dark. After waiting some time longer, I took my lamp and put the queen in at the entrance.

She at once ran in, and in about three minutes the bees were all perfectly quiet; but two days later I found her on the ground dead. Can you give me a reason for this?—I send name for reference, and sign—SULPHURLAND, Harrogate.

REPLY.—The queen No. 1 is an adult, and evidently had been fertilised; there is nothing visible to indicate the cause of her being cast out of the hive. No. 2 is much the same in every respect. An examination of the combs might possibly afford a clue to the cause of the respective queens being cast out, but without this it is mere guesswork to offer an explanation.

[3639.] *Chapman Honey-plant.*—Will you kindly inform me if the enclosed leaf is what we call the Chapman honey-plant? A person advertised in the BEE JOURNAL last spring, "50 plants of Chapman honey-plants for 7d.," so I sent for fifty, and what I have is flat on the ground, growing exactly like thistles. I send a sample for your inspection.—ADA DAVIES, Carmarthen.

REPLY. — *Echinops Sphærocephalus* (Chapman honey-plant) has a thistle-like appearance, like the leaf sent, and so have four or five other members of this family, so that it is difficult to determine from the dry and crumpled leaf you send which of them it belongs to. We can only do so when the flower is sent. The flower-stalks are not usually thrown up the first season, and young plants, as you describe, resemble thistles.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

*** An esteemed correspondent dating from the North of Scotland writes as follows:—"Can you, or any of your readers, give me information regarding New Zealand as a field for dairy, poultry, and bee farming; the best district for such, and what prospects there are for one engaging in the business? Reference to any paper or book dealing with the subject will be gratefully received."

F. E. GREEN (Newdigate).—*Value of Nucleus Hives.*—1. The value of nucleus hives is admitted by all up-to-date bee-keepers. Indeed, it is difficult to see how a large apiary could be managed successfully without some means of rearing queens—to replace those worn out or unprolific—on one or another of the many plans now in vogue. 2. If you have the remaining portion of comb sent, and will carefully insert the end of a match into one of the sealed cells and scrape the base of the cell with it, there will be found adhering to the point of the match a small brown scale, less than half the size of a pin's head, yet containing myriads of foul-brood spores, enough to spread disease among scores of hives.

CLOVER (Herefordshire).—*Candy-making.*—You should have said what recipe has been followed in making candy as sample, and mention the page of book from which it was taken; it would help us in accounting for its unsuitability as bee-food. It seems insufficiently boiled, and will soon become as hard as a stone.

HONEY BUYER (Bedford).—*Guaranteeing Samples.*—We have had a number of complaints similar in effect to your own, and although the matter is not an easy one to adjudicate upon, we shall endeavour to overcome the trouble so far as our connection with the matter is concerned. More than this we cannot say at present.

Honey Samples.

HALL AND KITE (Eastchurch).—Sample is very fair in quality, much better than the general run of samples we have seen from your county this season. It is fair in colour and flavour, and, though not first-class, is a fair marketable honey.

HAWTHORNE (Ayrshire).—Since you ask if sample is fit for the show-bench, we reply by saying your honey is very good indeed on all points. It is one of the densest samples of clover-honey we have seen this season, and you undoubtedly missed some prize-money in not sending it over the Border to some of the big shows, where money prizes are given well worth taking some trouble to win.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

GOOD HERTFORDSHIRE HONEY, in 28-lb. tins, 6d. per lb. — J. CRAM, Chorleywood, Rickmansworth, Herts. d 44

Editorial, Notices, &c.

Obituary.

MRS. GEO. W. YORK.

We regret to have to record the death of Mrs. York, wife of Mr. Geo. W. York, editor of the *American Bee Journal*. Mrs. York had been confined to the sick room for a year, suffering from valvular heart disease. She took a prominent part in good work in the neighbourhood where she resided, and many will miss her kind and generous help. Mr. York has our heartfelt sympathies, as no one can feel the loss more than he, for she was a devoted wife, and greatly assisted her husband in raising the *A.B.J.* to the high position it now occupies in the world of bee-literature. Dr. Miller writes a nice sketch of her life in the current issue of the paper.

REVIEWS.

The Bee People. (London: Methuen and Co. 3s. 6d.)—Since the "Book about Bees" by the Rev. F. Jenyns appeared in 1888 we have had no work on that subject written especially for children and young people. The one before us is compiled from Margaret Warner Morley's book published in Chicago by McClurg and Co. some nine or ten years ago. It is written in just such a plain, readable style as would attract the attention of children. The worker-bee speaks, introduces herself and then tells all about the different parts of her body, her life in the hive, as well as the doings of her companions, how she makes wax, eats honey, and how she and her companions left the hive. It is an introduction to the inhabitants of the hive very suitable for young readers, teaching the importance of habits of observation, and showing some of the simplest of the many wonders of bee-life in a way which must induce many not only to take an interest in the subject, but also to have a desire to know more, and study the practical part with a view of ultimately taking up bee-keeping for themselves. The book is well illustrated, and as it is intended to draw the young people's attention many of the illustrations appear more than once. The type is large and clear, while the pictures of flowers showing their bee-visitors upon them are particularly interesting. It would be an exceedingly nice book to give young people as a Christmas present.

Climbers. By T. W. Sanders, F.L.S., F.R.H.S. (London: Agricultural and Horticultural Association. Price 1d.)—This is No. 14 of the "One & All" series, and Mr. Greening, the editor, has made a wise selection in getting Mr. Sanders to write it. He is well known as an author, and everyone may accept his carefully explained cultural directions with confidence. The book is well illustrated and cannot but be useful.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

THE ISLE OF WIGHT BEE-DISEASE.

A BUSINESSLIKE PROPOSAL.

[6916.] Now that there is no longer a possibility of driven bees headed by doubtful queens being despatched, I gladly join Mr. Crawshaw and promise my guinea towards helping our crippled brethren in the Isle of Wight. Bees are not wanted yet. What the island needs is bright, frosty weather and spring sunshine, to which all hives that have held diseased colonies should be exposed, having first been well disinfected. The ground where the hives stood should be skimmed with a spade and the rubbish raked up and burnt; or if digging be preferred, then, as Mr. Woodley suggests, the surface should be buried by thorough trenching.

In my humble opinion the Hants and Isle of Wight B.K.A. should no longer keep silent. If the Council do not deem a subscription desirable, their opinion will carry great weight. If they do, let them give us an idea of what is needed. It would surely not be difficult to form an administrative committee of, say, three bee-keepers—or perhaps not all of them bee-keepers—of the island or of the adjoining mainland. This done, I have no doubt that our Editors would open a subscription list in which the promise of colonies or nuclei, guaranteed healthy, might take their place, to be sent direct in due course to given addresses, and the committee could purchase other stocks in a well-selected quarter. There is ample time to make all necessary inquiries and arrangements, while as to funds they would doubtless be forthcoming if once the matter were put upon a sound business footing.—H. J. O. WALKER (Lieut.-Colonel), Leeford, Budleigh-Salterton.

[We cordially endorse every word of the above letter. Not only is the time oppor-

tune for setting about the needful preliminary arrangements, but Colonel Walker's proposals are based upon the only lines on which any real chance of a successful issue can be hoped for. It appears to us that without the official support of the Hants and Isle of Wight B.K.A. there would be a lack of that unanimity—with regard to the need for monetary assistance—which is so desirable if help from outsiders is to be secured.

Should an effort be decided on, we venture to suggest the names of Mr. E. H. Bellairs, Hon. Sec. of the Hants and Isle of Wight B.K.A.; Mr. E. H. Cooper, local Hon. Sec. of the same association; Mr. John Silver, Croydon, and one other, as the "administrative committee" proposed by Colonel Walker. We name Mr. Silver as having taken a prominent part in bringing before our readers the straits to which bee-keeping in the island has been reduced through disease.—EDS.]

NOTES BY THE WAY.

[6917.] The question of keeping more than one queen in a hive at the same time is apparently occupying the minds of our Transatlantic cousins to a considerable extent just now. There is no doubt that several queens can be safely introduced to one colony, but where aged and failing queens and young ones only just beginning to lay are introduced to one colony, I do not believe that 3 per cent. of the stocks so treated would be found with more than one queen in each at the end of a month after introduction. On the other hand, I think it quite possible that if there are two good queens in the same hive, say, at the end of April, that colony would build up faster than one headed by a single good queen. There must, however, be some method used for keeping these queens apart, along with the certainty that there is a good strong colony of bees in the double-queened hive, otherwise the brood-nest will only expand slowly. The duplicated queens may deposit eggs enough, but if there are not sufficient nurse-bees to generate warmth and to carry on the growth of the larvæ to maturity it will be lost labour for the queens. I am quite convinced that we have not changed (nor are we likely to change) the instinct of the honey-bee, although some may fancy it can be done by continual selection of certain points—say, the non-swarming instinct in a few stocks—year after year. But when we have about got those superior points fixed there comes Dame Nature in a merry mood, accompanied by bright, sunny days in May and June, who will as with a wand disperse our labour of years in a few days, and the "swarming instinct" will reassert itself in those bees which for years have almost ceased to swarm at all—will "swarm themselves to death," if I may use a common term, or at least become queenless. To those of our readers who may be inclined to try the plural-queen system I would say, if you have spare queens give it a trial, but if you have to purchase queens to experiment with, "Don't"—unless you use queen-excluders or a "Wells" dummy, *i.e.*, a thin board pierced with holes; but if you have only ten-frame hives, I opine one good queen will fill your hive with bees and brood by the first week in June, and it is only in very early districts that bees take to supers before June, and a hive overflowing with bees at the end of May would be useless if the honey-harvest did not open till about June 10, when white clover is just bursting into full blossom.—W. WOODLEY, Beedon, Newbury.

NOTES FROM CORNWALL.

[6918.] *Baby Mating-boxes.*—Readers of the B.B.J. who are not beginners are already aware that I insert only what are practically ripe queen-cells in these because of finding that queen-cells made in such a small "hive" are usually too small to produce good queens. Given large, ripe queen-cells, the baby-box system should succeed wherever it is tried. In my opinion it is far easier and better to give a natural cell with a queen almost ready to hatch out than to give an artificial cell with an egg in it. There are usually plenty of such natural cells on hand in the season, and it is needless trouble to make artificial ones. I do not go in much for raising queens, my time being rather limited. I often buy; but I have made a success of queen-raising on the lines stated.

Superseding Queens.—I quite agree with our friend "D. M. M.'s" remarks on this subject. Queens do differ amazingly. This accounts for the very different opinions we get about the superiority or otherwise of foreign bees. I maintain that a first-class native queen will do at least as well as a first-class queen of any other race; and who can desire more? By keeping a pure race we place more reliance on securing a certain temper. There is no need to be prejudiced against any race of bees; all are right in their place, but I think that the race evolved naturally in any region ought to be the most suitable for the locality. Of course no rules are without exceptions.

Your correspondent "Cornish, St. Austell," who writes on "Renewing Combs Annually" (6910, page 474), is quite justified in his comment, but he is not correct in viewing it as a case of "confusion

worse confounded." To make the matter clear, let me say I purchased in the spring a number of stocks on frames in order to increase my apiary, and these provided plenty of two-year-old combs. Unfortunately—like many others last season—I neglected to feed all my stocks, as should have been done during the most unfavourable part of the season, and, in consequence, derived little benefit from the purchase. The fact is I was afterwards obliged to unite every two stocks to make them strong enough for the brief spell of honey-gathering we got.

Foul brood or no foul brood, I contend that it is a good plan to renew the brood-combs annually, whether it be done in mid-August by putting the bees on new foundation, or earlier in the season by allowing them to transfer themselves. In none of these cases will the bee-keeper lose anything if he works intelligently. Some criticise my methods unfavourably, because probably their conditions differ from mine. I can only repeat that with me the renewal of combs yields success and satisfaction. They are not altogether new methods; I have simply applied old methods in a more extended fashion.

When rendering down even the cleanest year-old combs, it is simply amazing to see the amount of what may be called "dirt" that remains, exclusive of stale pollen, and, germs or no germs, I believe the bees will have sweeter quarters on new, clean combs. To err on the side of cleanliness, if we can so err, is surely pardonable.

Knapweed.—Replying to Mr. Crawshaw's question on page 479 about this plant, I do not know the exact constitution of the soil in the field where it flourishes here, but granite is the prevailing rock, and the soil contains some decomposed granite. The weed in this field was as thick as clover-heads usually are in a clover-field, and the bees were working at it just as thickly as on the clover till the crop was mown; even for a day or two afterwards the bees worked on the fallen blossoms. I suppose bad farming would cause the weed to increase, but to the bee-keeper such farming is useful.

New Zealand for Bee-keeping.—Without being able to advise your Scotch correspondent from personal experience, I may say that some relatives of my own located in New Zealand are doing well as farmers; they keep a few stocks of bees for their own use only, so it would appear that bees are with them not regarded as of much importance commercially. New Zealand, however, is thinly populated, and the home market is, therefore, very limited; but the man who has capital, and takes up land primarily to produce his own food, will thrive there in the best sense. I never met anyone from New Zealand who spoke ill of the country; my own relatives praise it highly; and the man who loves to live close to Nature will find in New Zealand a congenial home with a healthy environment.

I intend to take a rest for some time as regards writing about bees; therefore, should any correspondence arise concerning my contributions, may I ask readers to understand that if I remain silent it is not for lack of courtesy to them. I wish all a happy time in the coming year.—W. J. Farmer, Redruth, November 29.

FOUL BROOD AND THE USE OF PREVENTIVES.

[6919.] The wail of Mr. Owen Browning in your last issue (6913, page 477) is rather disheartening reading to young bee-keepers, inasmuch as he says the "more he messes with preventives, the more the disease (foul brood) spreads through the apiary." Let no one imagine for a moment that he can cure the disease simply by the use of preventives. This is impossible, but that does not necessarily mean that the said preventives will not have a beneficial effect in retarding the spread of foul brood where it already exists, or in warding it off from healthy stocks. I have myself had considerable experience of foul brood and its treatment, as in our county of Cumberland a few years ago it was very bad indeed. The result of persistent use of preventives by the experts and members of the Cumberland B.K.A. is that the disease has been reduced from 50 per cent. when the association started to about 10 per cent. at the present time. The preventives used are carbolic acid, lysol, phenyle, naphthol beta, naphthaline, &c. This reduction has taken place notwithstanding the fact that many bee-keepers who remain outside the association persistently allow the disease to run riot among their own bees, and re-infect apiaries of their neighbours, who, if they did not systematically use the above-named preventives, would have to give up bee-keeping in disgust.

With regard to your correspondent's plan of shaking bees from diseased combs straight on to clean ones, it is simply transferring the disease into the new combs—along with the bees—every time, and the result is easy to imagine in a large apiary infected with foul brood.

Scotch Firs and Heather.—In reply to Mr. Crawshaw's question on page 448, I find that my bees gather a very large amount of propolis when at the heather, presumably from the fir trees. A large fir plantation is within easy reach of the location, and should the hives remain there some time after the honey-flow is over the section-racks are sealed down so

firmly that considerable force is necessary to remove them; indeed, their removal is seldom accomplished without lively protest on the part of the bees. By the way, has anyone ever noticed that a sting during the heather season is extra painful?—G. W. AVERY, Armathwaite, S.O., December 2.

BEES "BALLING" QUEENS.

THE CAUSE AND EFFECT OF DEATHS FROM "BALLING."

[6920.] Mr. Crawshaw's note on bees "balling" queens in last week's B.B.J. (page 479) recalls to my mind an interesting observation of my own which appeared in your pages a year or two ago. Mr. Crawshaw states that "probably the queen had been confined for *some time*." I should like to know what his idea of "some time" really is. Does it refer to seconds, minutes, or hours? I believe that many of us have a wrong impression as to the length of time it takes to "ball" a queen to death. In my own observation, if I remember rightly, the "balling" went on for a great many hours in the observatory-hive (Lees' three-frame). It may be that the limited space protracted the operation, yet there is not a great deal more room between the frames in an ordinary hive. Anyhow, in the case I mention it was effectual both as regards the queen and several of her executioners as well. I should like any of your contributors who have taken particular notice of the length of time the bees remain in the "balling" position, when unmolested by the disturber, to kindly give us the results of their observations. Perhaps your esteemed correspondent Colonel H. J. O. Walker may have made a note of this in his observations. If so, I should like to have his opinion as to the length of time it takes to destroy a queen by "balling," and how many of the bees themselves generally lose their lives in the operation. I myself do not doubt that those bees in immediate contact with the queen suffer the same fate.

Another point in connection with this matter that I should like to have opinions on is: What is the immediate cause of death? 1. Is it caused by asphyxiation? 2. Is death due to internal injuries, caused by the extreme pressure exerted by the "balling" bees? Or (3) is it due to the stings of the bees? Perhaps our worthy Editors, out of their vast stores of experience, may be able to clear up the point.—H. SAMWAYS, Maesybont, Llandebie, December 2.

[It will perhaps be more appropriate if we let others give their views first, and leave any remarks of our own till later on.—EDS.]

POLLEN FOR DRIVEN BEES.

[6921.] Referring to the question of pollen for driven bees, my strong impression with regard to the subject is that *artificial* pollen is rarely required in the autumn for that purpose. I have fed successfully many driven lots, but have never given them artificial pollen; yet they have, without exception, come out well in spring, and in fact have usually proved my strongest stocks.

On October 19 last I heard of four skeps of bees that were to be sulphured unless someone would drive them. Two days later I cheerfully undertook the task, and united the four lots—weight of bees, 3½ lb. I put them on one worked-out comb, one partially worked, and six frames fitted with full sheets of foundation (wired). Rapid feeders were put on, and within eight days some 30 lb. of syrup taken down and stored. I then observed that pollen was being freely carried in on every possible day during the following three weeks. Sometimes I could see as many as five or six bees well laden on the flight-board at once. All was activity among the driven bees as on a midsummer day, whilst my other stocks were doing but little. On November 6 I found the driven bees had a good patch of brood. Since then I have not disturbed them, but to-day (November 28) I noticed through the glass window dummy that the back of the last (eighth) comb was covered with bees.

In late October and throughout November much pollen is gathered from ivy blossom as well as honey.

I am firmly convinced that this lot will not only go through the winter well, but right on to next season without artificial pollen, unless it be for stimulation jointly with my other stocks about the time that crocuses are in bloom.—W. WINTERTON, Bloxham, Oxon, November 28.

HIGH PRICES FOR ONE-POUND SECTIONS.

[6922.] Bee-keepers who are continually advocating and hoping to get better prices for comb-honey will be pleased to hear that 1-lb. sections (glazed) are being retailed in High Street, Kensington, London, at 1s. 9d. each. It would be interesting to know what is the highest wholesale price obtained by bee-keepers this season. If this were known, we could then judge who is reaping the benefit of the high prices—the bee-keeper or the shop-keeper.—J. C. M., Upper Clapton, N.E., November 30.

(*Correspondence continued on page* 486.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

We have in Mr. Sims's notes yet another testimonial to the usefulness of the "bee-tent" at shows of bee-produce. The good-natured assistance given to would-be bee-keepers by a lecturer of the right kind is most helpful to beginners, as shown by Mr. Sims, who says:—

"In response to your request for a few 'notes,' I have very little to tell, my career as a bee-keeper being but a short one, extending over three seasons only. But although I knew nothing about bees or anyone who kept them, I had got a notion in my head to have a skep of bees, if only for adding to the appearance of my garden. Shortly after making this resolution, however, I chanced to visit a local flower show, and there saw the 'bee-tent' at work, and entering into conversation with the lecturer after the operations were over, it ended in my purchasing two stocks of bees from him in frame-hives. He afterwards gave me a great deal of help in the way of teaching, allowing me to visit his apiary, and good-naturedly answering all my numerous elementary inquiries.

"Since then I have got into touch with other bee-keepers wherever possible, and have read all the modern books on bees I have been able to procure, and am now the proud possessor of an apiary containing thirty-two colonies of bees, though obliged to keep them some distance away from home. This number is one less than I had last spring, but with me, as with so many others, the bad season has prevented progress in either increase or surplus. In fact, there has been more feeding to do than anything else.

"I have also, unfortunately, made the acquaintance of foul brood during the work of buying stocks to get my apiary together, but I am quite clear of it now, and do not fear the pest very much because I do not tinker with diseased stocks. I just destroy them out and out when I find that a stock is really affected. First loss is best, according to my judgment. I spend all my spare time amongst the bees, accompanied frequently by my good wife. I regret her absence from the photograph, as I believe our Editors like to show ladies who are their husbands' willing helpers in the apiary. [You are quite right in this.—EDS.] I am often asked why I keep bees, and are they profitable? Well, if I regarded money as the one and only thing to be always striving for, I doubt if I should keep bees. But, apart from the money-making aspect, I get an immense amount of pleasure out of my bees, 'free, gratis, and for nothing,' as the saying goes. To get pleasure in other ways I should, as a rule, have to pay something. When men are not earning they are probably spending. Besides, we generally manage to get some honey from the bees which can be turned into money, and I find that, taken altogether, bees do pay to keep. Besides, what a glorious hobby bee-keeping is, even if there be no profit attached to the pursuit! Possibly I have already said too much for print, so will close with best wishes for a good year to all in 1908."

MR. W. H. SIMS'S APIARY, HALL GREEN, NEAR BIRMINGHAM.

(*Correspondence continued from page* 484.)

THE POOR SEASON OF 1907.

[6923.] It would appear from Mr. Wakerell's report, in your issue of November 14, of the discussion on "The Past Season's Work" (page 452) as though I also had experienced a "disastrous year" with my bees; but although I did not do quite so well as last year, I managed to obtain 173 lb. of very good honey from the supers of four stocks. One of the hives had also more than enough stores left to winter on, but the other three had to be fed up rapidly.

Referring to Mr. Ellis's "Something New" in the same issue (page 456), I exhibited and explained at the Croydon meeting a very simple device which I have used successfully for several years. It consists of a swarm-box with a lift arrangement which allows one to hive the swarm direct on to the frames, and then, if wished, immediately to transfer it into a new hive, or left for weeks in the box. The "lift" in that case is used to contain a feeder and warm wrappings.

In reply to Mr. Gray, also in same issue (page 456), may I say that, having used a "Wells" hive for four years with every success, I have had no swarms from it, and always obtained more honey than from any other two hives in my apiary?—W. G. Fischer-Webb, South Croydon.

BEE-NOTES FROM NORTH HERTS.

ZYMOTIC DISEASES AND THEIR EFFECTS.

[6924.] Zymotic diseases among mankind generally mark off the population into three classes, viz.:—(1) The immune; (2) those who take the disease but are capable of recovery; and (3) those to whom the disease is fatal. The same is observed with regard to contagious diseases of plants and animals, and it is therefore reasonable to suppose that the rule applies to foul brood and bees. A particularly susceptible stock would be doomed to extinction sooner or later, but I should prefer to bring this about at the beginning of the outbreak by re-queening after the starvation treatment, or when medicated syrup was being administered. The strain of bees would thus be changed to the advantage of the stock, but the colony would remain. That some colonies have a high resisting power is shown by the frequent statements made in your columns that such stocks are able to make a good show during the honey season, although disease is present in the hive. It is also shown by records of cure after the temporary removal of the queen, &c. It seems, however, a pity that these cases are not helped by the removal of the contagious matter in the combs. It is evident that brood must be contaminated by the combs, the food administered, or by the diseased adult bees. The "Guide Book" treatment effectively deals with these dangers, and if the advice to re-queen is also followed it is difficult to understand failure to cure. I think that varying susceptibility to disease is often overlooked, although it is unreasonable to suppose that stocks, varying as they do in temper, honey-gathering, &c., should be absolutely alike in this particular. The prospect of extermination of foul brood must therefore depend on healthy conditions and the selection of the less susceptible strains.

Philological Recreations (page 467).—Referring to Mr. Farmer's observations on the derivation of words, I should have thought that the sky was discovered before the art of basket-weaving; or maybe the poetical and expressive Gael was a bee-keeper and compared "that inverted bowl we call the sky" to a large skep. The earth was probably the floor-board with us human bees crawling about on it.—G. W. Bullamore, Albury, Much Hadham, December 2.

MOVING BEES IN WINTER, ETC.

[6925.] I notice several advertisements of bees in skeps and hives to be sold in B.B.J. of November 28 and previous issues, which leads me to ask:—Is it not almost certain death to the queens by "balling" if hives are even only slightly disturbed in such weather as we are now having? My own opinion is that bees ought to be left severely alone from early October till late in March, unless it be to see if they need feeding; and then only when they are freely flying, when of course the weather would be bright and mild.

Referring to the Editorial reply to "Honey Buyer, Bedford" (page 480), may I say that I have occasionally offered honey for sale in Bedford, and have usually got some such answer as "We buy all we want at ——" (mentioning a very low price); and when I reply that mine is far better in colour and get-up, and is guaranteed pure honey, I am met with "Yes, but this answers our purpose just as well."

Dealing with Robber-bees (page 478).—I should say that when bees are dusted with flour they go to their own hive, and are then quickly relieved of their load, it being stored as pollen, and the robbers are then free to go for some more *ad infinitum*. But by changing the hives two or three times at two or three days' interval, I have easily and effectually cured robbing. As one way of combating foul

brood I would suggest that no one purchase bees in any shape or form unless guaranteed healthy.

I have noticed that when hives are moved a yard or two daily to a new site the flying bees follow the track taken by the hive to the new location for about ten days; particularly is that the case with swarms.—A. H., Wavendon, North Bucks.

THE SEASON IN NORTH CORNWALL.

[6926.] It is with pleasure that I send a few notes from this part of Cornwall. Taking into account the cold, wet season, I have done fairly well. I started feeding my bees in March with syrup, and continued right up to the beginning of June. On the 27th of that month I had a very fine swarm, which was put in one of Burgess's "Perfection 'W B. C.' Hives," on ten frames, with full sheets of foundation. About ten days later I put on a rack of sections, and the following week another similar rack, and by the first week in August the sections were all completed. The parent stock also gave me thirty sections, and both swarm and parent hive went into winter quarters with a plentiful store of food. Another stock which was very weak in March I fed up, and on referring to my note-book I find they gave me forty-two sections. Two other hives yielded a surplus of sixty sections each, which I think is remarkably good for such an adverse season as the past one. I find my sixteen hives have given me this year on an average just over forty sections per hive.

I may say I work entirely for section-honey, and find bee-keeping very remunerative, as well as interesting. I have now kept bees for five years, and have never had any disease among them (although there is foul brood in the neighbourhood): this I attribute to the fact that I medicate all syrup given with phenol solution, and also use naphthaline in the hives. I am a constant reader of the B.B.J., and wish it every success, and hope we shall all have a better year in 1908.—E. J. H., North Cornwall.

FRAMES WITHOUT BOTTOM-BARS.

[6927.] In answer to Mr. Crawshaw's inquiry on page 479 last week, I beg to say the strips of comb can be fastened by placing underneath the removed bottom-bar, and slinging by a bit of string at each end passed over top-bar. The comb edges should be first cut perfectly straight (using a straight edge and a sharp, thin knife). Both string and bar may be removed generally twenty-four hours afterwards. It will be found—whether comb is old or new—that if at all attached to hive-side the comb will always break there, the attachment being the newest work, and therefore the weakest link in *this* chain. There need be no fear of the comb breaking elsewhere, for before attaching to the hive-side the bees will have built brace-comb to the side-bars all the way down, and will only attach to side of hive after filling up every other available space.—Robin Hood, Lancashire, November 29.

GLASS COVERS FOR HIVES.

[6928.] Mr. A. Reid, in his letter headed "Among the Bee-hives," in last week's B.B.J. (6912, page 476), disparages the "glass cover" for hives. He says:—"If laid flat on the frames it would give means of observation without the bee-passage, and if laid upon strips of wood it would give bee-passage all over the frames, which allows too much escape of heat from the cluster." He also says:—"Glass is expensive, bad for ventilation, and unpleasant to handle."

Now, I have glass covers on all my eleven hives. They are 15½ in. by 14 in., and ⅛ in. thick, with a round hole cut in the centre, 2 in. in diameter, for feeding purposes, and they cost 1s. 6d. each. Between them and the frames there is a flat frame, about 1½ in. wide and ⅜ in. thick. This allows a bee-passage without escape of heat, for the bees propolise the glass to the frame, and since the glass rests on the frame it is easily detached by a thin knife or wire.

I certainly do not agree with our friend Mr. Reid that glass covers are unpleasant to handle, but I agree with him that they are expensive. They are, however, imperishable, and in the long run I consider them cheaper than other coverings.—I. B. C., Loughborough, November 28.

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

Superseding Queens.—The importance of this subject to the bee-fraternity makes it unnecessary for me to apologise for reverting to it again; so I make a few extracts, giving, in brief, the opinions of some leading men on the other side of the Atlantic.

Mr. Alexander writes:—"We re-queen during the third summer of the queen's life. Don't supersede your queens until they are two years old, unless for some special fault." He deposes some at the age of three months. Mr. H. Lathrop "marks such hives as have poor queens at his spring examination, and then re-queens as soon as he can rear young

mothers. It is too much work to re-queen once in two years." Mr. McNeil considers "constant watchfulness better than wholesale supersedure, and in this way requeening can be attended to with greater economy, if not more efficiently." Mr. R. L. Taylor supports Nature's doings emphatically:—"Who dare affirm that not better, but as good, queens can be supplied colonies by any interference of the hand of man as by natural supersedure, when all is accomplished without any excitement or disturbance? The bees attend to this very well, as was to be expected, for it is *Nature*."

The editor of the *Review* from which above extracts are taken sums up:—"If a queen does not come up to the desired standard, and the bees show no disposition to supersede her, I would take a hand at it myself; but I greatly doubt the advisability of superseding a queen simply on account of her age."

Mr. Louis Scholl's opinion is:—"The best results in my apiaries are obtained from queens reared the previous fall, and they will do two good years' work; then they should be replaced after the honey-season with fall-raised queens."

Quite recently Mr. Root, Dr. Miller, Mr. York, Mr. Doolittle, and Mr. Townsend have all spoken out in favour of leaving it mainly or altogether to the bees.

Laudatory.—The new issue of the "Guide Book" has been "very highly commended" in America. Mr. York, in the *Journal*, says:—"It is a book that should find a place in every bee-keeper's library. It is a gem, typographically and mechanically." The editor of *Gleanings* considers the new edition "a considerable improvement on the former ones, to keep pace with the times. It is a great credit to all who have to do with its make-up. It has had a very large sale, and the new edition will doubtless be as popular as the former ones—probably more so." It is well worthy of note that the "Guide Book" is very highly appreciated abroad, as is proved by the fact that translations thereof have appeared in all the chief languages of Europe, among them being French, German, Danish, Swedish, Spanish, Russian, and Dutch. In the States and Canada it finds a ready sale, as well as in Australia, New Zealand, and South Africa. The improvements made in the latest edition are such as enhance its value very much, and I would predict for it a hearty welcome not only in this country, but wherever apiculture is practised.

Profit.—"It is not how much we make, but how much of it is profit. What does it profit a man, if it costs him eleven cents to produce a ten-cent pound of honey, fussing with some of the systems (?) given occasionally in our bee-journals? Get a system that lessens the cost of production." This is the sage advice given by Mr. L. Scholl in *Gleanings*. This up-to-date Texan apiarist gets a considerable amount of his "profit" from *cotton*. The yield is good, averaging from 75 lb. to 100 lb. bulk comb-honey. He does not believe much in fads. "Running along after every new thing is a waste of time and money. I know of several bee-keepers who have ruined their once excellent stock of bees by buying queens from breeders."

Conserving Heat.—Mr. Alexander says:—"We are all learning fast that it is very important to retain all the heat we can during spring. We close the entrance until it is so warm in the hive on a fair day that the bees will fan the air at the entrance as they usually do in mid-summer. This causes the old candied honey to liquefy, and prevents the bees from carrying it out of their hives, where it is lost. Do all you can to retain the heat of the colony in its hive during about nine months of the year, and you will find that the bees will be the better for it." I wonder if there is anything in the above idea about heat liquefying candied honey. Where it had assumed that state I always found bees busy in early spring throwing it out, evidently impressed with the opinion that it was so much waste matter.

Introducing Queens.—"A fact worthy of consideration is that young bees just hatched will at any time accept any queen. Therefore it comes about that when one desires to introduce a valuable breeder on which he desires to take no chances whatsoever he causes her to be released on a frame of very young or hatching bees." Extracted from the new edition of the "A B C of Bee-culture." Mr. Root, in an editorial says:—"We have tested a good many five-banded strains in our yard, and are very sorry to report that, while some of them are good honey-gatherers, yet all of them seem to be about the first to go in winter or spring; while the darker strains of Italians, and especially Carniolans and Caucasians, seem to be able to stand the winter well."

Bee-enemies.—From the *Australasian Bee-keeper* we learn these are numerous and troublesome. Among them are martins, magpies, orioles, kingbirds, blue-birds, bee-eaters, wallabies, frogs, red ants. Foul brood exists, but the subject is not very prominent at conventions, and is seldom mentioned in the bee-journals published in the Southern Hemisphere.

Australian Honey.—The same paper informs us that the South Australian Government is helping bee-keepers by advancing 1d. per lb. on all honey shipped to Britain. A special commercial agent is appointed to place the honey on the

market to the best advantage, to look after the bee-keepers' interests when placing the honey with British merchants, and to make sure that the honey is sold as Australian. In this year of a short home crop the venture, if ever, should prove successful.

Queries and Replies.

[3640.] *Disinfecting Bee-appliances.*—I shall be much obliged if you will answer the following questions in the B.B.J. For the last four years one of my stocks has been affected with foul brood in not more than half a dozen cells each year. Last August I removed the bees from their combs and confined them in a box for two days; then let them fly for another two days, feeding on medicated syrup all the time. I then hived them on fresh combs, and I now ask: 1. Will it be safe next season to use the same appliances for them, such as feeders, smoker, shallow-frames for extracting, &c., as I use for my other eight hives? So far I have kept separate appliances for the affected stock. 2. Will the metal ends be safe for use again after being boiled for a few minutes? 3. Will the honey extracted from the affected brood-combs be fit for human consumption? 4. Are four or five pieces of naphthaline too much for one hive? I always use that much and cannot see that it does any harm. 5. How long can a young queen go before she begins to lay? This summer I had one go just seven weeks. Thanking you in anticipation of your reply—J. C. Thompson, Leicester, November 27.

Reply.—1. The fact of only half a dozen cells being affected each year for four seasons past proves that the disease is of a mild form, and with ordinary skill and care it should be got rid of, but as you already have separate appliances for the diseased stock we should continue to use them exclusively for it. Better to err on the safe side if at all. 2. Yes, quite safe. 3. Honey from affected combs is perfectly harmless to human beings. 4. Two balls of naphthaline split in halves is the proper quantity for preventive purposes. The half-balls should be placed flat side down on the floor-board, furthest away from the entrance, and renewed as the naphthaline evaporates. 5. The usual time for young queens to begin ovipositing after being fertilised is about two days; very much, however, depends on the weather and other conditions prevailing at the time, which may cause so much delay in mating that egg-laying may be deferred for many weeks, as in your own case.

[3641.] *Moving Hives into Summer-house During Winter.*—I have two hives of bees standing out in the garden. Can I with advantage move them into the summer-house for the winter months? I may say the latter is open on one side, facing the East, and the hives would be warmer and drier there than where they now stand. Reply will oblige.—C. P., Warwickshire.

Reply.—Experience has proved beyond doubt that any attempt to keep bees in better health by moving them into warmer quarters during winter has ended in failure from one cause or another. They are best when left on their summer stands, and protected as well as may be by good weatherproof hives and comfortable wraps, always bearing in mind that the best covering for bees is *bees*, and stocks with combs so covered always winter well.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Flour-candy in Autumn (page 447).—Mr. Farmer advises the use of this when bees are "driven late," presumably when the work of doing so is driven late by the season. But what is the object of this? Is it to enable the bees to breed the same year? His bees must be very hardy, or exceptionally well trained, for them to develop much of a brood-nest after September. And if this pollen substitute is for spring use, would it not be better given when wanted? It would be well for the inexperienced to read Mr. J. Gray's contribution on the subject (page 464) before unquestioningly following the advice given by Mr. Farmer.

Mixed Metaphor (page 448).—Is it allowable to say that one *lands* in the sea? I know this writer well enough to believe that he would argue that one might reach bottom even in Charybdis, but surely in such an attempt to retain his footing he would be somewhat out of his depth!

Telling the Bees (page 453).—I have heard from a Devonshire undertaker that the practice of "turning the bees" was at one time so regular that a bee-keeper's funeral often presented difficulties, owing to the disturbed state of the bees. I have not, however, learned in what the "turning" consisted, whether the hive was upturned or not. Perhaps one of our Devonshire friends will tell us?

A Standard Hive (page 454).—Of course it would be impossible to force everyone to use one type of hive, but there would be many advantages could "Minnesota's"

ideal be realised. As he suggests, it might involve several sizes, as ten-frame and twelve-frame, but the details might be settled by a committee of experts from general practice. It would certainly be an advantage to standardise the "W. B. C." hive, so that they should be interchangeable. The outside dimensions and the thicknesses would, if standardised, ensure this.

Neudamm Bee-disease (page 461).—What a convenient spot for the outbreak of another audition to our list of plagues! But this disease appears to differ from that of the Isle of Wight in that the brood is affected as in foul brood, whilst in the Isle of Wight the brood is reported to remain apparently healthy.

Aphysical Impossibility (page 462).—Why not, in these syndicate days, form a corporation to exploit the greenfly? A farm of suitable trees protected from predatory insects and dust, inhabited by tame aphides, and to each tree its bee-hives, to gather the dew as it falls! Four hundred billion aphides from one egg! Then if 4,000 aphides be required to produce one drop per diem, that means, allowing for over 50 per cent. evaporation, 3,000 tons of this honey daily at the eighth generation, which. if sold at the rate of only ½d. per lb., would yield—— But hold! If anyone will find the capital I will undertake to write the prospectus and provide the egg! The freely Esperantoed motto for the company would no doubt be A : FIDES : ET : FOLII, which only jealous detractors would construe as having reference to *a Faith and Folly-age*, instead of its being, for the pure vegetable product, its true advertisement—*Greenfly Devour Leaves!*

Bees, Flies, and Wasps (page 463).—I am surprised that Mr. Woodley should give up a little conundrum like this so easily! The bees were amongst the firs first; the fly-wasp was pursuing the flies; so of course the flies were after the bees! Did you say, why? Oh, talking no doubt of the crop of resin this year, wondering what they want it for if it isn't good to eat, and advising them to use some other thingummy stuff for the purpose!

PRESS CUTTING.

HONEY-THIEVES PUNISHED.

A number of youths made their way over the fence into the garden of Miss Susan E. Dixon, of Podge Hole, near Hamsterley, and, while the bees were busy elsewhere, removed the top of a bee-hive and abstracted two sections of honey. For having damaged the bee-hive, turnips, &c., Thos. Renwick, George Hopper, James Lynd, Norman Wilson, of South Side, Butterknowle, and Ernest Firbank, of West Green Row, were each fined 10s. 6d. at Bishop Auckland.—*Darlington Echo.*

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

W. CARRUTHERS (Sussex).—*Examinations for the B.B.K.A.'s Certificates.*—The "samples of the questions" you wish to see before studying for the several examinations of the B.B.K.A. are unobtainable. The secretary of the parent association, Mr. E. H. Young, 12, Hanover Square, London, will, however, forward a syllabus if applied to, in which will be found all the information required by students. The questions for first and second class examinations are changed each year, and "samples" would only be misleading in consequence. What is really useful in preparing for the examinations is a careful study of the books recommended.

H. TURNER (Stourport).—*Candy-making.*—1. Your second sample is much better than that first sent, but you do not say on what page of the book the recipe it is made from appears. Please tell us this. 2. Naphthol beta solution will keep for a long time. Very few persons can make bee-candy that will be usable one year after making. It seldom remains soft for so long, especially "when kept in a dry place," as stated.

W. D. (Carmarthen).—*A New Hive.*—There would be no difficulty beyond expense of carriage to and from London in bringing your hive to notice as proposed; but the proper time to do so would be at the Conversazione of the B.B.K.A. in March next, the monthly meetings of the Council being merely for business purposes.

Honey Sample.

(MRS.) A. G. (Essex).—Your sample is no darker in colour than a good part of the crop gathered this season. It is not appetising for table use; skep-honey rarely is when got from brood-combs. But apart from this it is not unfit for use as food.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Editorial, Notices, &c.

REVIEWS OF FOREIGN BEE-JOURNALS.

By "Nemo."

Distance of Flight of Drones.—M. Maurice Bellot says, in *Les Abeilles et les Fruits*, that after moving from his apiary a colony of bees that had retained their drones to a distance of a mile and a quarter, he found next day that a number of these drones had returned to their old stand. This colony had been previously moved six metres away from the others in the apiary, which shows that the returning drones belonged to this hive. He also says that in a radius of six kilometres (nearly four miles) from his apiary most of the bees are cross-bred with Italian bees. M. Bellot is a queen-breeder, and imports a great many Italian queens.

Foul Brood on the Continent.—We find it stated in *Bienenwirtschaftliches Centralblatt* that foul brood has destroyed several important apiaries all along the north of Schleswig. The disease is as bad in Denmark, and the bee-association has appointed a commission to take measures for combating this pest. With this object in view the Government has made a special grant of 1,000 kroner (about £55), which is in addition to the regular annual grant of 3,000 kroner that the society receives. This commission commenced its work on the island of Falster, and found that in 1905 one-third of the colonies were diseased. The inspection made during the current year showed that the number of affected colonies had been reduced to 4 per cent. In Jutland drastic measures were adopted for stamping out the disease, and the Government has decided to legislate on the subject. With this object in view it has appointed an inspector, who is instructed to report on the origin, nature, and extent of foul brood, the methods adopted for getting rid of it, and the results obtained.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

THE OLD AND THE NEW.

[6929.] "The old order changeth, giving place to new," wrote the poet, and the words hold true in bee-keeping. Old beliefs, customs, superstitions, myths, practices, and teachings have given way to the brighter light of modern discovery and invention. We have not now to go on groping in the dark with the "sealed book" of the old straw skep, but can search and find, can investigate and discover, can solve what have hitherto been riddles, cast light on dark places, and make the whole internal economy of the bee-hive as open as a printed page lying exposed before our eyes. Our queens are "known and numbered every one"; their age, pedigree, and powers of ovipositing are conveniently on record; the amiability or irritability of their offspring is a matter of history; and the labouring powers of the worker-bees reared from their eggs within our observation and knowledge. Apiculture has been systematised and synchronised; event concurs with event, so that each becomes the handmaid of the other. Those who are up-to-date arrange matters in such a way that bees are at their best and strongest just when forage yields its fullest and richest flow of nectar. Strong colonies are strongest exactly when they can make the most of their numbers. This is the acme of perfection in bee-keeping, and can only be attained in full under the most favourable conditions, just because men and bees are both largely creatures of circumstances, but all who wish to succeed should make it their chief aim and object to attain to this ideal.

It was my hap quite recently to pay a visit to the bee-garden of an ancient bee-keeper, whose faith in things of the olden time makes him cling to antediluvian modes of procedure, and who still sees virtue only in the old dome-shaped straw hives. What a pretence of bee-keeping the whole establishment displayed! Ruskies in all conditions of decrepitude were to be seen, of all shapes and sizes, and embellished with all manner of adornments in the way of sacks, torn, worn, and rotten, old battered tin cans, superannuated milk-basins, old clothes, dilapidated and unfit even to dress up a scarecrow; pieces of wood decayed and worm-eaten; turf-divots cut from the heathery moor years ago, rotten and crumbling to dust. Woodlice were there in myriads, earwigs numbered tens of thousands, "slaters," beetles, and hosts of other insects infested every skep and every covering, till one was fain to retire before the multitude of loathsome crawling creatures, which seemed to outnumber the bees. "Pettigrew" skeps were invisible; those in evidence were small, but the tiniest was apparently overroomy for the miniature nucleus the most populous colony in the collection represented. Baby-nuclei would more

properly represent what these skeps contained. Yet apparently they sent out swarms, and somehow they increased yearly to make up for the heavy toll the winter death-roll imposed. We were not at all astonished that their owner wailed a sad lament on the decadence of bee-keeping, and has come to the conclusion that it does not pay.

As a contrast take the case of a modern apiary I know well. No straw skep is visible there. All the "homes of the bees" are up-to-date, trim, neat, and attractive. All have the standard frame as a matter of course. Their owner has tested the best hives, and so several shapes and sizes are in evidence, as he has not evolved a "standard hive" yet. The process of evolution has, however, led him to the "W. B. C." principle of an inner case, which secures him warmth, rapid and convenient manipulation, and ease and comfort in winter packing. Paint is not spared, and consequently hives are bright and attractive. Weeds are kept invisible, on the principle that prevention is better than cure. The loving care and tender regard for the diligent workers are made apparent in many ways. The study of their works and ways has endeared them to this lover of Nature to such an extent that I am certain he would say from the heart, "A summer without bees would be as sad and empty as one without flowers or birds." Not forgetting the utilitarian side of the subject, he manages them in such a way that his purse is at least *not* lighter year by year. What a contrast is his apiary with its host of workers issuing in their tens of thousands, and returning incessantly as if their little lives depended on their indefatigable zeal, compared with the sleepy surroundings of our skep friends! What a harmonious monody is heard in that bee-garden during the rush of the heather-season! What a delicious odour pervades the air all summer and autumn! What a pleasure the whole *tout ensemble* is, even to the unprofessional beholder if he loves the beautiful and the artistic!

Perhaps it is in the contrasting of the finished product that the difference between the new and the old becomes most marked. Take as a specimen of the one the following from an ancient writer of repute: "Many bee-keepers make one work of all the contents of a skep, pounding and compressing honey, wax, bees, brood, young bees, and pollen all together; then with a press they violently wring out all that will run!" This gruesome mess is enough to turn the gorge of any true lover of pure honey, even in thinking of it. Place alongside of it the fruits of modern apiculture in the shape of a delicious well-filled section, with its luscious, appetising contents, or the product of the extractor in a neat, attractive one-pound glass jar filled with the sweet, aromatic, liquid, well-matured, nectareous manufacture of the bees' loving labours.

In no other way, however, does the new show to greater advantage against the old than in the ways and means supplied to the novice for acquiring a rapid and easy epitome of the knowledge necessary for a propitious start. Everything is, as it were, brought to his door. Bee-papers, bee-books, and bee-literature of the best are poured out in a steady stream for his benefit and to help him over the stile: bee-appliance dealers cater for his every want, and modern means of communication bring him so near the chief centres that he can be well up to the times in all respects. When we think of all these blessings we ought to lift up our hearts in grateful thanksgiving that our lot has been cast in such happy times as this enlightened twentieth century.—D. M. M., Banff.

"BALLING" THE QUEEN.

ITS CAUSE AND EFFECT.

[6930.] In answer to Mr. Samways (6920, page 484), I regret that I possess no notes of scientific value on this phenomenon of bee-life, although from time to time I have watched it in performance. Like some other actions that are set in motion by "the spirit of the hive," it may arise from greatly differing motives, murderous or protective; or the incident may be merely the result of undisciplined excitement, in which case a "ball" formed with intent to slay may perhaps dissolve in kindness. The tragedy, I take it, is the less frequent, and I have never watched one to its finish.

In early bee-keeping days I have had to separate little knots of bees tightly hugging a new queen too quickly set free from her cage. Here, then, was the murder "ball," and so intent on their task were the workers that I cannot recollect their having tried to sting my fingers. Once, too, in my observatory-hive I saw the beginning of what was to all appearance a similar knot. The queen, a virgin, was squeezed with such force that her abdomen was twisted out of shape—a piteous sight. Evening came on and I lost sight of this cluster, but next morning I found outside the hive the pressed-out body of a queen, probably the same one. I believe they die mainly from internal injury, but excitement and want of food may have something to do with it. It can hardly be from asphyxia, because if so the workers in immediate contact with the queen would also suffer to a considerable extent, and even if the smaller spiracles that belong to the queen's abdo-

men were squeezed up so as to fail to act, those of the thorax, which are larger and stronger, would be less easily closed. Bees can exist in a minimum of fresh air, otherwise the centre of a big swarming cluster would be unendurable, even if allowance be made for an occasional change of position.

It very rarely happens, I believe, that a "balled" queen is stung to death. It would be very difficult for a crowded bee to adopt a stinging posture or to find a vulnerable place. As for the time that a "balling" cluster is maintained, it may, I am sure, be several hours. I judge from protective clusters. These I have watched for quite three hours before leaving them. But they are looser, and the outside bees seem to be merely reposing, and may even detach themselves for a moment and come back again. I remember seeing one pass her head through an opening and lick the queen with her tongue, but whether for the queen's pleasure or her own is doubtful. Such clusters break up very slowly, and the queen makes off as soon as she can.

A curious instance occurs to me of cluster "balls" being formed, apparently with no adequate reason. Having had occasion one morning to disturb my hive, though only slightly, I returned a little before noon to see what was doing, and, noticing a "ball," I at once concluded that the queen was surrounded. While I was still undecided what to do my eye fell on a second "ball," and presently I detected a third. There being only one queen in the hive, I began to watch these "balls" placidly. Little by little they all dissolved; but one lasted at least two hours, for I know that I came back after lunch and found it still in existence. There was, of course, nothing inside these knots, and I have no idea why they were formed, unless on the impulse of excitement.

In an observatory-hive, if the glass be placed at the distance of only a single bee-way from the comb, as is desirable if the queen or individual bees are to be closely observed, there is not sufficient room for such a "ball" to be formed as may be picked up sometimes in an ordinary hive. I now fix the glass that forms the face of one side of my six-comb hive at a double distance. The queen will often pass out of sight, to the disappointment of visitors; but, on the other hand, incidents will take place naturally that would otherwise be wanting. Comb is generally built upon the glass and larvæ reared in it. Such, it may be remembered, was the case with my Cyprian colony in 1901, as described in "My Third Season's Observations" in B.B.J. of February 6 of the following year; but I have never been quite so fortunate since. —H. J. O. Walker (Lieut.-Colonel), Leeford, Budleigh Salterton, December 9.

BEES "BALLING" QUEENS.

[6931.] Some time ago, in relating how a runaway swarm of Golden bees "balled" their queen three weeks after hiving, during which period no eggs had been laid, your contributor Mr. Crawshaw asked for further particulars of this hive, which I now supply. When these bees had "balled" their queen I started them to work rearing queens on the artificial cup method, and during this queen-rearing a curious incident occurred. Close beside this hive was a small nucleus colony with a virgin queen. She was three weeks old and unmated, and one Thursday this little colony, queen and all, disappeared! On the following Monday, about one o'clock, I noticed a great commotion at my queen-rearing hive, and on opening it to ascertain the cause I found the lost virgin queen in a "ball" of bees. I recognised this queen by her having one yellow band. She could not have been in this hive during the intervening four days, because these bees had been busy making queen-cells all the time. The question arises: Where had she been in the interval?

During August and September last I had four cases in my apiary in which nucleus colonies of three and four frames of bees "balled" their own young fertile queens during examination. In the first case I rescued the queen and caged her on a comb for twenty-four hours, releasing her on the afternoon of next day, but they subsequently killed her. In the second case I rescued the queen and caged her on a comb for two days, releasing her in the evening; she was saved. In the third case, after rescuing the queen, I dusted her with flour, and then put her back in the hive. A few minutes afterwards, by the manifest excitement of the bees, I concluded they were again "balling" her. Upon examination this was found to be the case. I then gave the "ball" a good dose of smoke, put on the quilts, and applied the smoker again, giving a good dose at the entrance twice; the bees then quieted down, and this queen was also saved. In the fourth case, as soon as the "balling" was noticed, I parted the "ball" of bees to see if the queen was really inside. On discovering her I put on the quilts, and gave the bees two good doses of smoke at the entrance, with an interval of ten minutes between the doses. This queen also survived.

In all these four cases the manipulation and "balling" took place in the middle of the day, and in each instance robbers were much in evidence.

My observations lead me to consider that these colonies at that moment were over-excited through having to defend themselves from robbers.

No cases of "balling" have occurred

with me where the manipulation took place early in the morning or in the evening; neither does it happen with strong colonies covering over seven frames of bees. It seems clear that the trouble and loss are caused by the combination of "robbing" and manipulation in colonies not over strong, the bees of which at the moment of opening the hive are excitedly defending themselves against robbers.—JOHN SILVER, Croydon.

MOVING BEES IN WINTER.

[6932.] In answer to the query put by "A. H., Wavendon," in your issue of last week, *re* the danger of moving bees in winter, may I say that I moved four stocks of bees in skeps and one in a frame-hive at different times during last December and January to distances of from one to seven miles without any ill-effects whatever? That was my first start in bee-keeping, and I send you the following details, giving my own experience as that of one who knew literally nothing about bees, yet by the aid of the "British Bee-keeper's Guide Book" and the B.B.J. I have managed to get 56 lb. of surplus honey in what I believe is generally admitted to be one of the worst seasons ever known. Here are the facts:—I purchased and had given me four stocks in skeps and one in a frame-hive, and, as stated above, I took the precaution to feed two of the stocks at once with candy, as they were evidently very short of food. During the whole of April and May of this year I fed all the stocks with syrup, and, wishing to get the bees transferred into frame-hives, I placed the skeps over frames in April. In June I found the bees had done very little towards transferring themselves below, so drove them, putting back the skeps as supers, with queen-excluders between. When next examined in August the bees of two of the skeps had transferred themselves below, and the two skeps were nearly full of honey. I got 47 lb. from the two.

On examining the other two skeps, however, it was found that the queen was still in one and the stock not over strong, while the other was queenless; so I drove the bees from both and united them. Three weeks later I got about 16 lb. of honey from the skeps.

I am afraid I lost a swarm from the frame-hive in May, as on the 31st of that month what was evidently a "cast" was found close to the hive. Anyway, I hived them, and after being fed for a week they did well. As for surplus, I only got two finished and three unfinished sections from the frame-hive.

In June I had a good swarm given me, then in September I was offered four skeps of bees condemned to the sulphur-pit. I drove the bees, but as they were not strong lots I joined them with the two lots before united, and fed them rapidly.

In September, when examined, I found that all, with the exception of the last-named lots, had on an average about 15 lb. of stores; so by helping them with syrup I hope to get them through the winter all right.

We had a week of beautiful weather at end of March and beginning of April, but only one fine, hot day in May, and the same in June. In mid-July there was a bright, hot fortnight, and the white clover being backward, the bees were very busy on it. After that the weather was wet and cold till the commencement of September, when we had a fortnight of brilliant sunshine, since which time it has been more or less raining continually. Notwithstanding the bad season, I have found bee-keeping a most pleasant and interesting occupation, and am looking forward hopefully to a good season next year.—A. S., Marlborough, Wilts, December 7.

(*Correspondence continued on page* 496.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

For a bee-keeper who knew nothing of the craft three years ago, Mr. Chandler's "notes" are both instructive and useful, as showing fairly well that the trouble with foul brood is not so great as some old hands would fain have it believed. He says:—

"I only began to keep bees in November, 1905, at which time my father purchased the bees and whole stock of a bee-keeper in the district who was giving up. There were seven stocks in frame-hives and one in a box. About the same time I had a hive and bees presented to me by my father-in-law. Prior to this I had no knowledge of bees whatever. Being anxious to start on proper lines, I bought a copy of the 'Guide Book,' and started to read the BEE JOURNAL, and from these I have gained all the knowledge I possess on the subject. Indeed, it seems to me that anyone following the directions given therein cannot go wrong. The hives seen in photo are located in a fruit orchard of about ten acres, and it was hearing of the benefit fruit-growers derive from having plenty of bees close at hand for fertilising the bloom that determined me to keep some. I could only get five of the hives in the picture, though I have eighteen stocks in all. Like most beginners, I had my troubles, the first being in the early spring of 1906, when on a bright day I noticed three hives quiet

while the others were busy. On examination I found one was queenless, and so weak as to be worthless. Another had died of dysentery, and the bees in the box-hive had disappeared altogether. These three hives were among those purchased by my father. On examining closely the combs of the queenless stock, I noticed some sealed cells empty, and suspecting foul brood, I dispatched a piece of comb to the B.B.J. office for examination, and got the reply, 'Foul brood of old standing.' I showed your reply to the seller, and he was good enough to meet me in the matter, and also agreed with your advice to 'destroy the contents of the hive at once'; but unfortunately bees of another hive had already carried off the honey in the combs, and so spread the disease. Thus I found myself in what 'D. M. M.' calls the 'Slough of Despond,' but was determined to try to remedy matters. I sent to the office for some naphthaline and naphthol beta. I also got a spray-diffuser, and followed closely the directions in 'Guide Book,' and transferred the bees to a clean hive, previously boiled in a 70-gallon copper which we have. I managed the job all right, but later on found traces of the disease in another hive—a strong lot covering ten frames. In this case I put naphthaline in the hive and gave medicated syrup, and when the season opened put supers on. I got very little honey that year, the crop being dried up, but I had three swarms and a cast. I may also mention that the stock first presented to me came to grief after developing a drone-breeding queen, and being attacked with wax-moth, I destroyed them outright.

"After removing the surplus of that year, I examined all my stocks, then numbering eight, and could find no trace of foul brood except in the one previously mentioned, the constant use of naphthaline apparently being effectual. I determined to make another effort to cure the affected stock, as the disease had not made much headway during the summer of 1906. I followed the 'Guide Book,' as usual, but unfortunately shook the bees direct on to the foundation without the starving process—a mistake I afterwards found out. The stock wintered well on eight frames, and came out strong in the spring of this year, as did all my others, the whole of which were transferred to clean hives by the end of April, and in due course were supered. I found no foul brood in any.

"My experience of 1907 has shown it to be one of swarms, my first coming off on May 11 and my last as late as July 26. Even the diseased stock I transferred to a clean hive swarmed, and on examining it afterwards I found foul brood just making its appearance again in a few cells, through the mistake already mentioned. So I removed the hive about 500 yards away, and left it alone for three weeks, when I again examined and shook the bees off every frame, and after clearing out the few affected cells (only about half a dozen in all) I sprayed the combs with soluble phenyle, as per 'Guide Book,' and commenced to feed with medicated

MR. JOHN CHANDLER'S APIARY, KIDBROOKE LANE, BLACKHEATH, LONDON.

syrup. The bees were on the verge of starvation at the time, but the queen commenced to lay a week later, and in a short time the frames were packed with brood, with no trace of disease to be seen. I am wintering this hive on the whole of the eleven frames, it being very strong in bees. Six of the eight hives swarmed, thus increasing my stock to eighteen. In two cases I have had virgin swarms, one of which came off after the swarm had re-queened themselves. In another the bees re-queened themselves, and gave 30 lb. of surplus, besides plenty of stores for winter. One stock was bent on swarming early in May, but I managed to prevent them, and they gave me 67 lb. of surplus. It opened my eyes to see what bees can do if they get favourable weather. The honey-flow of 1907 lasted no more than about ten days with me, my total take being only 171 lb.; but I have increased my stock by ten colonies. All my queens bred this year were successfully mated. With regard to wiring and fixing foundation in frames, I have no difficulty whatever in using full sheets in all frames. I also make my own hives. I hope to complete a dozen new ones before winter is over. The first, third, and fourth hives shown in photo are my own make. All my bee-manipulation has been done without any help except what has been got from the 'Guide Book'; in fact, the only apiary I have been in is that of my father-in-law, and his is not worked on up-to-date lines. He was very much struck with the advantage of using full sheets of foundation, being greatly troubled with superfluous drones, so I am going to fix him up some full sheets in frames. Some of his frames had not been moved since the day they were put in eighteen years ago; so I examined them, and found the combs in fairly good condition, though in some the honey was stone-hard and the bottom-bars decayed away, but the top-bars were as good as ever. It reminded me of the much-debated question regarding the strength of top-bar. I conclude by wishing our Editors and all bee-keepers a happy Christmas and prosperous New Year."

(*Correspondence continued from page* 494.)

AN ABUNDANT HONEY-YIELDING CLOVER.

FREE SEEDS FOR BEE-KEEPERS.

[6933.] I have often wondered why Bokhara clover is not more extensively grown in this country. In fact, I do not remember ever having seen it grown over here with the exception of one place. It is an excellent bee-forage plant and also makes a splendid feed for stock. It grows in the poorest of ground, and if not cut at all, it will, after the roots are well established, grow into a beautiful bush-shaped plant year after year without re-sowing if the roots are left undisturbed.

In my own apiary on a gravel soil, without any manuring being given to the roots, it has grown for the last ten years, and sometimes reaches a height of 9 ft. to 10 ft. The main stem throws out strong side-stems about every 2 in., and these again give off numerous small shoots about 6 in. long the whole length of the side-shoot. These small shoots are covered from about three-quarters of their length with very small and delicate white petals about $\frac{1}{8}$ in. long, giving to the whole plant a most graceful and frond-like appearance; so that to a mixed border in a garden it is quite an acquisition. It commences to bloom about the end of May and continues to do so till the end of November, if there are no severe frosts. (My own plants are still in flower.)

I have noticed that bees eagerly work on the blossom, and believe it is catalogued in America as a good honey-producing plant. I first saw the plant growing there, and obtained the seed sown in my own apiary; I also remember seeing the Bokhara clover flourishing on a hot and dry bank just outside Cincinnati, where apparently no other vegetation seemed to grow. I have saved and dried a fair amount of seed this autumn, and to make it more widely known to any bee-keeper wishing to try it I will be very pleased to send a few seeds free on receipt of a stamped and addressed envelope.—E. H. Taylor, Welwyn, Herts, December 5.

NOTES FROM NORTH HERTS.

"TELLING THE BEES."

[6934.] Referring to the mention of "Bee-hives in Mourning" on page 453 by our friend "D. M. M.," may I be allowed to say "telling the bees" is apparently the survival of a much more extensive practice? In Mr. Tylor's "Primitive Culture" it is stated that in Germany not only is the message "given to every bee-hive in the garden and every beast in the stall, but every sack of corn must be touched and everything in the house shaken that they may know the master is gone"! Then with regard to "turning the bees." The following quotation from the Rev. Thistleton Dyer's "English Folk Lore" may convey to Mr. Crawshaw the information he asks for on page 489. It originally appeared in the *Argus* newspaper of September 13, 1790, and reads as follows:—"A superstitious custom prevails at every funeral in Devon of *turning round* the bee-hives that belonged to the deceased, if he had any, and that at the moment the corpse is carried out of the house. At a funeral some time since at Collumpton of a rich old farmer a

laughable circumstance of this sort occurred, for, just as the corpse was placed in the hearse, and the horsemen to a large number were drawn up in order for the procession of the funeral, a person called out 'Turn the bees!' when a servant who had no knowledge of such a custom, instead of turning the hives round, lifted them up and then laid them down on their sides. The bees thus hastily invaded instantly attacked and fastened on the horses and their riders. It was in vain they galloped off; the bees as precipitately followed, and left their stings as marks of their indignation. A general confusion took place, attended with loss of hats, wigs, &c., and the corpse during the conflict was left unattended; nor was it till after a considerable time that the funeral attendants could be rallied in order to proceed to the interment of their deceased friend."—G. W. BULLAMORE, Albury, Herts, December 9.

THE WONDERS OF BEE-LIFE.

MISLEADING LECTURES.

[6935.] Last evening I attended a lecture given by the Rev. Theodore Wood, F.E.S., on "Wonders of Bee-life." In the course of his remarks the lecturer stated that "the virgin queen of the honey-bees selected a drone in the hive to mate with, and after the 'wedding' all the drones were driven from the top to the bottom of the hive and then killed by the workers. The queen then commenced to lay eggs, laying eight or ten: then after taking about three or four minutes' sleep she woke up and laid eight or ten more, and had another nap, and so went on during the twenty-four hours. Sometimes, if there were not enough cells for the eggs, she would lay two in one cell; and whenever this happened the worker-bee who attended to the eggs as they were laid got rid of the extra one by eating it!" It was also stated that "the queen laid male and female eggs, which accounted for the drones and workers." Again, the lecturer said, "If one watched a hive, large and small workers would be seen; these large worker-bees were the ones that made the wax, the small ones did not do so"; adding that "when young queens were about to hatch out the old queen would make her way to their cells with the intention of killing them, but would be gently but firmly pushed away by the workers; on this she would utter a scream and make another attempt to get at the cells, with a like result; and after making about six unsuccessful assaults she would leave the hive in a 'huff,' to be followed shortly afterwards by about 4,000 bees, and this was called a swarm." I need hardly say these statements surprised me, coming from so eminent a naturalist and lecturer as the Rev. Theodore Wood. I have read the BRITISH BEE JOURNAL regularly every week for several years, also books on bees, including Maeterlinck's "Life of the Bee." I should like your opinion on these statements, as they appear to me quite contrary to what I have read, and very misleading, coming from the reverend lecturer, who is considered an authority on these and kindred subjects. The people who listen to him will certainly get a wrong idea of the "life of the honey-bee" unless his statements are corrected.—JAS. HARRIS, Maidstone, December 3.

[If you have correctly quoted from the lecture in question it is difficult to believe that the statements made were intended to be taken seriously. They seem to us an attempt to make up a humorous story founded on certain episodes in bee-life; but, instead of teaching anything about bees, so far as they are regarded by bee-keepers, the lecture would only raise a smile among those who have any practical knowledge of the subject.—EDS.]

INSURANCE FOR BEE-KEEPERS.

The following letter has—by request of Mr. W. J. Farmer—been forwarded to us for publication in the B.B.J.—[EDS.]

"E. H. Young, Esq.,
"Secretary, British Bee-keepers' Association.

"DEAR SIR,—I beg to express my thanks for the great fairness manifested by Messrs. Heath in the matter of Mr. Hill's claim in respect of the injury caused to his horse by my bees. Messrs. Heath have acted in the most honourable way and given entire satisfaction to all. I know that Mr. Hill on his part claimed not one penny more than was fair, and the extreme care which he caused to be given to the horse was a great factor in making the claim comparatively so light, as without it the horse might have died, and he is a valuable animal.

"I have always considered the insurance scheme a great boon to bee-keepers. I personally considered that there was no real need for me to insure, as my apiary is in a small field out of the way, and entirely surrounded by other fields, with no road very near to it; but the unexpected has happened, and I think that I need hardly point the moral to all bee-keepers. No matter how careful they may be in their working, nor how isolated they are, an accident at any time may upset all their caution. It is curious that for a whole year a pony grazed

amongst my hives without being stung. He was a very cautious pony, and evidently knew the nature of bees, as he always waited until nightfall before eating the grass round the hive-mouths. Eventually I had to banish him from my field because he knocked over some hives. He was most useful as a lawn-mower. He never got a sting, though the field is only one-fifth of an acre in area, and I regularly manipulated in his presence. He greatly relished a piece of honey-comb.

"Will you kindly ask the Editor of the BRITISH BEE JOURNAL if he will be so good as to publish this letter in full, as I desire to have it generally known that I am well satisfied with the methods of the insurance people, and to strongly impress upon all bee-keepers the wisdom of insuring.—I remain, yours faithfully,

W. J. FARMER,
Nov., 1907. Redruth."

WEATHER REPORT.

WESTBOURNE, SUSSEX,

November, 1907.

Rainfall, 2·66 in.	Minimum temperature, 28° on 16th.
Heaviest fall, ·76 on 26th.	Minimum on grass, 23° on 16th and 24th.
Rain fell on 19 days.	Frosty nights, 3.
Below average, ·65 in.	Mean maximum, 51·5.
Sunshine, 57·6 hours.	Mean minimum, 39·6.
Brightest day, 30th, 5·2 hours.	Mean temperature, 45·5.
Sunless days, 8.	Above average, 2·6.
Below average, 12·8 hours.	Maximum barometer, 30·375 on 30th.
Maximum temperature, 58° on 3rd and 9th.	Minimum barometer, 29·228 on 26th.

L. B. BIRKETT.

NOVEMBER RAINFALL.

Total fall, 2.65 in.

Heaviest fall in 24 hours, .54 in. on 24th.

Rain fell on 19 days.

W. HEAD, Brilley, Herefordshire.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Thick Combs (page 464).—I am much obliged to the Rev. Mr. Lamb for his detailed reply, as I am definitely interested in the subject at the moment. I am about to establish a new apiary, and am contemplating an installation of thin sections. I am quite prepared to profit by experience, but would like to be fully convinced before making a serious change. Would not the objection to thick combs be met by "Nondescript's" suggestion (page 467) to give ten frames of foundation, and, when combs are well under way, space to eight frames, placing the surplus two in the second super? I am not in favour of extra manipulations, but such a procedure might be tested to see whether it had the advantages of both systems. This would be automatic the second season, when there would be eight wide-spaced combs, which had been uncapped to about 1 in. in thickness. Why should the bees prove more reluctant to accept such combs because they were a fraction of an inch further apart? As to waste, Mr. Townsend claims that there is really a gain in the deeper uncapping, for wax which would otherwise be lost is utilised. As a matter of fact, there is less wax to the pound of honey with the fewer frames in the super. There are fewer bee-ways, and consequently fewer cappings and less wax.

The Importance of Pollen (page 464).—I have read with interest Mr. Gray's contribution to the subject of giving pollen to bees in autumn, and whilst my experiences fairly agree with his own, yet I think his argument that pollen is injurious contains a fallacy. This is due to a misuse of the term "pollen." His experiments merely go to prove that pea-flour is undesirable, not that pollen is necessarily so. The two substances are quite distinct, and it is a confusion of terms to call any pollen substitute by the name of pollen. I do not believe that pea-flour is a perfect substitute for freshly-gathered pollen, even under the most favourable conditions.

Thick versus Thin Combs (page 466).—Yes! Why should honey be better ripened in thin combs? The argument is something like this: Where thick combs are used there is less exposed surface, and therefore evaporation is slower. But bees are supposed to cap their honey when ripe, and not to simply knock off work because the time-whistle has blown! And if there be anything in the argument, it would mean that more honey is stored in the thicker combs per day to cause the difficulty! Given the same comb-surface and other things equal, why should there be any difference in favour of the thin comb? Yet Mr. Lamb claims (page 404) 50 per cent. more honey return from these. "Say, I want to know." Again, the adherents of the thin combs claim that they are sooner capped and ready for market. But the same ripening process can hardly be done both better and in less time. One or other, perhaps, but not both, surely! I suppose it would not be advisable to

have the combs much thinner lest the honey should be too thick to extract!

Notes from Cornwall (page 467).—In reply to Mr. Farmer's gentle accusation, I admit having misunderstood him, but I plead that it was almost excusable. I did wonder how he fixed foundation, but was sure that he would have overcome the difficulty. I conjured up a picture of his hackled skeps, not only from his description of his autumn manœuvres, but from his description of his much-tried workers as "condemned bees." I thought that was uncalled for and unkind of him! I would never refer to my bees like that, whatever they did! But, seriously, and with regard to foul brood and his declared position in the matter. What I am trying to suggest is that he should get on good terms, if possible, with his neighbour, and get the disease cleared out. Three minutes' walk and a friendly chat! Why, it would pay to set him up afresh rather than continually to sacrifice good combs built from the best of foundation.

Hiving Swarms (page 468).—This method of hiving swarms might perhaps be adopted with convenience where a non-swarming hive with bottom drawer is used. I have not tried it for swarms, but have hived many lots of driven bees in this way after dark. Bee-crushing and loss are avoided by leaving the final closing of the drawer until the morning.

Queries and Replies.

[3642.] *Wax-less Combs.*—In consequence of the loss of many stocks of bees this year, I have on hand a good number of combs from brood-chambers. I do not know how old they may be, but I have failed to extract any wax from them. They were steamed in the wax-extractor for two hours, but no outflow of wax followed. I then boiled them for two hours, enclosed in muslin bags, in an open kettle full of boiling water, but all to no purpose. I have put parts of the combs on the fire; they do not melt, but burn like rotten wood, and so I ask you kindly to advise me as to the best plan of dealing with these combs, for I do not wish to burn them if there is any process by which I may extract the wax.—J. B. C., Loughborough, December 7.

Reply.—We must confess our inability to name any process by which wax may be got from combs that apparently contain none. The only reasonable solution of the difficulty we can offer is that the combs are so old and have been so often bred in that the wax they originally contained has perished, and that only the cocoons of former occupants, along with the usual débris, remain.

[3643.] *Moving Bees Short Distances.*—I wish to remove a hive of bees from one part of the grounds to another, but it is not possible to move it a few feet at a time, according to the instructions given in the "Guide Book." Would you, therefore, kindly let me know:—1. Whether now or any time before next spring would be suitable to make the change? 2. Also, would it be necessary to place branches, &c., before the entrance to enable the bees to mark the spot in the event of their flying out on a mild day during the winter? I should be much obliged for this information.—A. H. S. B., Walton-on-Thames, December 5.

Reply.—1. If the change in position is postponed until the bees have been kept indoors for a few weeks through frost or during cold weather, the hive may be put on its new stand at one move with little risk of loss, if you take the precautions referred to in query No. 2, *i.e.*, by obstructing the bees' egress when passing out at the entrance in some such way as that mentioned in the "Guide Book." Some bee-keepers compel the bees to pass over or through some loose grass in getting out of the hive, and this causes them to notice the change.

PRESS CUTTINGS.

THE MARVELS OF INSECT LIFE.

We crush with a careless foot a creature impeded by the dust. But supposing we knew that from egg to lustrous wing this beetle had made a journey more perilous and more miraculous than any Odyssey of Ulysses—that it had survived a chance of a million to one against its survival? Some such life-history as this is to be told of how many small creatures of the grasses and the brooks? It is laid, as an egg, anywhere in the earth: it must, when it comes forth, find a certain plant. Say a million eggs are laid; say a hundred thousand tiny creatures reach the plant. It must then ascend the stalk of that certain plant; it must reach the stamens of the flower, a dizzy journey in the course of which ninety thousand succumb to rain, to predatory insects, to birds, to the Will of God manifested in one way or another; there remain ten thousand in these flowers. There they must stay until a certain bee comes to gather honey: one thousand are able to hold to life till then. When the bee comes they must grapple to a certain spot of the bee's hairy thigh; they must be carried by the bee home to

its cell: one hundred may reach the bee's cell. There, at the precise moment that the bee lays its egg, the beetle larva must drop into the egg: maybe ten will do that; and maybe one, after having fattened on the life-juices of the bee-grub, will come forth to the air a beetle—one survivor of a million! And it has gone through these perils, it has endured the fatigues, the hairbreadth escapes, the miraculous chances of this great journey, to be crushed by a hob-nailed boot before it has travelled one yard on the face of the earth.—*Great Thoughts.*

BEES IN A CHIMNEY.

Some few months ago Mr. G. Brinkman, of Lowestoft Road, the well-known apiarian, was sent for to go to the residence of Mr. S. D. Brown, of Warwick House, to dislodge a swarm of bees which had settled in one of the chimneys of that gentleman's residence. Finding he could not reach the bees with his hands, Mr. Brinkman used fishing tackle, and after about two hours' angling succeeded in landing the swarm in a net.—*Watford Post.*

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

*** A correspondent dating from King's Lynn on December 7 writes as follows:—"Could you give me sizes and measurements of, with full particulars of how to make, the 'W. B. C.' hive? I may say I have for years noticed in the 'Homes of the Honey-bee' that the 'W. B. C.' is the general favourite, and as I am about to make some new hives I want to adopt that pattern. I would, however, prefer some to take twelve frames instead of ten, if that is not considered too large for the intended purpose. Thanking you for the good advice received through the B.B.J.," &c.

Replying to the above, we must first say the "particulars" asked for would occupy more space than could be given in this column. Your best course, therefore, is to procure a copy of the "Bee-keeper's Note-book," price 1s. 1d. post free. That book contains (among other useful information) full particulars, with sizes and measurements, of all parts of the hive, so that any amateur joiner can make it. With regard to the number of frames the hive should contain, you must make it to hold ten or more, as desired.

APIS (County Cork).—*Choice of Frames and Hives.*—There can be no doubt that differences of opinion exist among experienced bee-keepers with regard to the "standard frame," broad-shouldered frames, types of hives, and other matters connected with the craft. Anyone who reads the B.B.J. can see this for himself if he wishes; but the great majority prefer to follow the matured opinion of those who have tested the different methods and chosen what experience teaches them is best. The true test of superiority is *time*, which "tries all things." Those found to be inferior soon drop into the rear so far as regards becoming popular, and manufacturers know what frames and hives are most in demand. If you wish to try a larger frame than the "standard" by all means do so; but you will have to tell the maker when ordering what dimensions it is to be—thus unintentionally illustrating the value of a "standard" known to both makers and users alike. For the rest, you can select a leading maker in England, as desired, from our advertising pages.

B. (Lewes).—*Clearing Up Shallow-frames after Extracting.*—We regret delay in reply to your second query, which was inadvertently mislaid. First let us say, as the bees were able to store more honey in the shallow-frames instead of clearing the wet combs and carrying down the contents, we should remove the super-clearer and leave the super on for the winter, if when examined now it is found to contain, say, half a dozen pounds or more of stores. Many bee-keepers advocate this procedure as contributing to the health of the colony, along with safe wintering. You would, of course, not only have to put on an excluder, but see that there were sufficient stores in body-box to keep the bees supplied with food till February next.

J. D. S. (London, S.E.).—*Current Prices for Sections.*—It is not for us to say why sections of this year are being still offered at such low prices at "The Stores" while dealers are paying considerably more for them for selling again. Our advertising pages will give a fairly good idea of how prices run in the open market according to current rates.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Editorial, Notices, &c.

THE ROYAL BEE-KEEPING INSTITUTE, ERLANGEN.

IMPORTANT INVESTIGATION ON DISEASES OF BEES.

There has just been founded by the Royal Government of Bavaria an Institute of Bee-keeping in connection with the University of Erlangen. The institute is under the direction of Professor Dr. A. Fleischmann. It is divided into scientific and practical departments, the former being under the leadership of Dr. E. Zander, and the latter in charge of Herr K. Hoffmann. It is an excellent arrangement to have this department in connection with the University, Dr. Fleischmann having been connected with it for some years as Professor of Zoology and Comparative Anatomy. He has devoted much attention to bees, is an able microscopist, and it was he who prepared the anatomical drawings for "Contributions towards the Natural History of the Honey-bee," reviewed on page 451 of B.B.J., the work referred to being the substance of lectures delivered by Dr. Fleischmann at the Royal University. Dr. Zander has also been Professor at the University for some time, and has given courses of lectures on the subject. The object of the institute is to study all questions connected with bee-keeping and to investigate scientifically and practically matters that affect the industry. Especial study will be given to the problems regarding feeding, brood-food, the value of different feeding materials, and other matters that require investigation. Not the least important is the study of the diseases known as "dysentery" and "May-pest," about which so little is at present known. Nor is foul brood to be omitted, it being intended to make cultures of the bacteria found in the different phases of this disease and determine their ability to reproduce it. Many other scientific investigations will be made which cannot fail to be of great value when such experienced scientific men take the matter in hand. Knowing, as we do, how thoroughly German scientists make their investigations, it is safe to place the greatest reliance on what they say. Therefore we look forward to much information being gained by the establishmen of this institute. In the practical department experiments will be made with different hives and races of bees, and all that may be of practical value to the industry. The experimental apiary is to be located in a park placed at the disposal of the institute by the city of Erlangen, and plants visited by bees will be cultivated near the apiary in order to ascertain their respective values. The undertaking of such a work as this redounds to the credit of the Bavarian Government, and it is to be hoped that it will be of practical benefit, besides helping to counteract much of the harm done by the dilettantish science which has recently been too prominent in the literature of bee-keeping.

REVIEW.

Small Holdings and Allotments, in Plain Language. By Herbert W. Gibson. (Chelmsford: John Dutton. 7d., post free.)—The author is Clerk to the Essex County Council, and has endeavoured in this pamphlet of fifty-four pages to give a digest of the Acts applying to small holdings and allotments. The Act of 1907 is a very important one, and if properly administered and taken advantage of by the right people is likely to do much good by bringing the thrifty and intelligent back to the land. The author correctly surmises that there will be many landowners, county councillors, parish councillors, and would-be holders of such lands seeking for information regarding the law on the subject, and who have not the time nor inclination to wade through some twenty different Acts of Parliament bearing on the matter. This pamphlet is intended to give the information needed in the simplest possible way—viz., by question and answer—and the author as concisely as possible shows everyone how to set to work to get the full benefit of the Acts. It is not given to everyone to be able to live on the land and work it to advantage, but for those who are the prospects are better now than they have been for some time past, and there must be many bee-keepers who would desire to obtain such a holding as it is the duty of the authorities to provide. We can thoroughly recommend this pamphlet to all who are in any way interested in the subject.

THE CLAUSTRAL HIVE.

This hive is gradually making its way on the Continent, and is being tried by a number of bee-keepers in comparison with ordinary hives. Among the many important advantages claimed for it is being able to confine the bees without detriment in early spring, when, as is well known, so many are lost by untimely flights. The inventor, the Abbé Gouttefangeas, has been able to confine his bees for five months at a time. It is true he lives at an altitude of 3,500 ft., but there must be many places in the North of England and Scotland where it would be

an advantage to prevent bees from leaving their hives for several consecutive weeks. The Abbé Gouttefangeas has requested us to make it known that at the end of this year he intends to remove the restriction as to making this hive, and to relinquish his patent in this country, so that any bee-keeper who wishes to do so may either make the claustral chamber himself or get it made without having to pay any royalty. We hope bee-keepers will take full advantage of this generosity on the part of the inventor and give the system a fair trial.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of November, 1907, was £1,826.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

THICK COMBS.

BOKHARA CLOVER FOR BEE-FORAGE.

[6936.] In reply to Mr. Crawshaw's questions on page 498, I would say, besides using wide frames, I tried also the suggestion made by "Nondescript" (6902, page 466), and found that when the surplus two frames of the ten worked out are placed in another super beside foundation the work was very uneven. To avoid this I gave four stocks a super of ten frames at the same time, so that later each could spare two combed-frames to make up another super; but even thus the results were rarely so good as with ten frames. The reason for the difference we may perhaps get at by comparing eight and ten frame supers to skyscraping factories of sixteen and twenty stories; it is evident that in the latter four more gangs of workmen being employed could turn out more goods than in the former. So ten sheets of foundation present twenty surfaces to as many gangs of bees, which should get through more work than sixteen gangs on the eight frames, and also work more comfortably, supposing both supers were crowded.

In supers with combed-frames the spaces between eight 1-in. combs would be a trifle more, but may mean many workers in the way, which might be more happily engaged in filling two extra frames.

I cannot see the gain in deeper cappings. With foundation the difference in the work to be done is that in the eight-frame super bees have to make all cells extra long, whilst in the ten-frame they have to build in two more frames. I think there is greater economy in the latter. Of course, with fewer frames there are fewer bee-ways, and consequently fewer cappings and less wax, if we grant two conditions—that the cappings of thick and thin combs are alike even, and that only the cappings are removed. But what are *deeper* uncappings? The cappings plus parts of the cells which have been shortened. Well, I contend that when eight frames have been reduced to 1-in. width—supposing the cappings alone were of the same weight as those of eight of the ten frames—the wax of the cell-walls would be more than equivalent to the cappings of the other two frames in the ten-frame super.

Again, why should honey be better ripened in thin combs? I suppose because if both kinds of supers received the same amount of nectar in one day, that in the ten-frame super would be spread out or exposed more, and consequently the excess of moisture would evaporate more rapidly, and, being sooner ripe, it would be sooner fit for sealing.

"Given the same comb-surface and other things equal—that is, remove the conditions—what then?" The argument falls to the ground, for I could not imagine any important difference in favour of the thin comb. I should then be inclined to produce the thickest comb, and save both apparatus and handling. With thin combs I have noticed quicker ripening, and better, more even capping, than with thick combs. Yet I see no reason why thick combs, if kept longer on the hive, should not yield honey of as good consistency as thin combs.

I would only add I readily give my observations in the attractive field of Nature, or modified Nature, we have in our apiaries, though the answers to why and wherefore may be often only mere conjectures, and that I value the opinions, if well supported, of brother bee-keepers as lights which may guide us nearer to the truth.—RICHARD M. LAMB, Burton Pidsea, December 14.

P.S.—"Bokhara clover." I have, like Mr. Taylor, been surprised that this

plant has not been grown more. It abounds with white airy and fairy blossoms, and the bees swarm on it, and it far surpasses the "Chapman honey-plant," which my bees would not look at, though frequented by wild bees.—R. M. L.

CATCHING AND HIVING SWARMS.

IMPROVING ON METHODS NOW IN USE.

[6937.] I am anxious to have your opinion on some points in connection with swarm-catching and introduction, and so I ask:—1. Do you consider the present methods adopted in the introduction of swarms into frame-hives to be entirely satisfactory? 2. Are you aware that many bee-keepers dread and dislike the operation of throwing out a swarm on to the orthodox sloping board at the entrance or in amongst the frames from the top of the hive? 3. Apart from the personal element, do you admit that there is in those methods considerable risks of failure, owing to the possibility of the queen taking flight and failing to return to the proper place, and other causes? 4. Do you know of any contrivance from which a swarm can be automatically transferred into the interior of a hive, while at the same time preventing any of the bees from taking wing? This does not refer to a hive that could be set on the top of a box, from which a swarm could be driven up on the "close-driving" principle. 5. Do you know of any device which, while securing safe and sure introduction on the lines described, would also be suitable as a receptacle in which to secure the swarm in the first place, and last, but not least, would be suitable for carrying a swarm to another part of the country? 6. Are you aware that swarms travel long distances safely, but are often rendered failures through accidents in introduction? A case of this came under my notice last season in Inverness. Two nice swarms from Mr. Woodley came all the way safely, but one of them was a failure owing to the queen not having entered the hive along with the swarm. 7. If it does not already exist, is there not need for "something new" in the methods at present resorted to in swarm-introduction? —A. Reid, Balloan, Muir-of-Ord, N.B., December 9.

[As our correspondent's questions are put seriatim, we shall answer them in the same way. By way of preface, however, we may say it is clear that our friend has not had an opportunity of studying up-to-date bee-keeping as now practised in England, or he would hardly venture to put such questions as some of those enunciated above. But the explanation of his lack of experience in bee-manipulating is not far to seek, seeing that in his part of Scotland a bee-tent, in which demonstrations of handling live bees by a qualified expert has probably never been seen at work. Such exhibitions are rarely seen at Scotch honey shows, owing, no doubt, to the fact that bee-keepers' associations in North Britain are managed on different lines from those followed on this side of the Tweed. They have no paid experts to go on tour among members, giving instruction in bee-handling and teaching beginners the best methods of management.

In England the bee-tent is nearly always to be seen at important shows, where visitors can hear lectures on bee-management and see how live bees can be handled by skilled experts, who after the lecture is over invite inquiries from all who wish for information.

On the other hand, it is safe to assume that in our position as Editors we often hear of persons who try to become bee-keepers, and totally fail because of their natural inaptitude for the pursuit; but it is within our personal knowledge that young people (male and female) who take up the study of bees under a qualified teacher are able to undertake all such operations as securing swarms and hiving them in the orthodox fashion without any dread of stings.

On page 30 of the "Guide Book" (new edition) will be seen a photo from life where a girl student is hiving a swarm, and has—very sensibly—extemporised the hive-roof as a slanting floorboard on which to throw the bees in hiving. Throughout the pages of the same book there are numerous illustrations from life in which the operations apparently dreaded by our correspondent are got through with perfect ease and safety (see also page 495 of last week's B.B.J.).

For the rest, we gladly reply to the questions asked as follows:—1. Yes; or at least as satisfactory as need be to anyone who is adapted for the ordinary work of an apiary. 2. This is already answered above. 3. The risk is so slight to a bee-keeper of ordinary capacity that we cannot admit the necessity for any change, unless in especial cases. 4. To our mind, the appliance shown on pages 22 and 23 of "Guide Book" in some degree meets this requirement, and we cannot see how a swarm can be transferred "automatically" to a new hive. Surely the bees must be carried to the latter! 5. We really cannot judge whether we have seen or know of a similar contrivance to the one you have in mind unless favoured with a view of the latter. 6. Quite aware of this. 7. Our correspondent had better refer to the prepaid advertisement column in last week's B.B.J. for reply to this, under heading of "Bee-keeping Made Easy."—Eds.]

ROSS-SHIRE NOTES.

QUEEN SUPERSEDURE.

[6938.] Opinions vary as to whether this all-important duty is best performed by bees or bee-man. The text-books emphasise the presence of young queens, prolific in autumn—the apiculturist's seed-time—as essential to the reaping of a golden harvest in the coming year. Personally I should be disinclined to forecast, through its autumn aspect, the future career of the average colony, feeling sure that a diagnosis on such lines as appearance of queen or extent of brood area would be merely guesswork.

I have seen colonies headed by obviously prolific queens displaying a wealth of brood when closed down for winter, and I afterwards saw them left in the rear by a less promising lot, which had been broodless and eggless in early September. Such occurrences as these may be taken as object-lessons on the folly of judging by appearances, and suggest the need of some definite system where supersedure is regarded as the bee-master's prerogative. In my experience, prosperous stocks can usually be trusted to re-queen themselves when the need arises, and comparatively few will be found dependent on outside aid in this respect. These few seen to directly supers are off, I prefer to leave the majority undisturbed, and after the preliminary spring examination carry out a thorough overhaul in May, and here the domestic scissors is an invaluable ally. As hive after hive is opened and the queens found, their respective ages are noted at a glance. This colony, headed by a perfect-winged mother-bee, was certainly self-requeened last season. Wait until she stops for a taste of honey, and the wing can be clipped unknown to her. The queen next met with was operated on last season. Clip her anew; she will yet do excellent work. Now we come on an old veteran twice clipped, showing that she is in her third and last season; if well reared, seemingly as prolific as ever, but it is a final effort. Her subjects know this, and take steps accordingly. Such colonies should be carefully noted and examined in autumn, when those that—through any cause—may have failed to re-queen are provided with young fertiles from the nuclei. A trial will, I think, show the simplicity and efficiency of this procedure, leaving no room for guesswork, and marking a forward step on the better way in things apicultural.

Utopian Dreams.—He was a veteran bee-keeper, elderly as years go, but renewing his youth in pursuit of the craft, and he unbosomed his inmost yearnings to the sympathetic listener. Oh, for a lodge in some vast wilderness of clover and heather, such as the bee loves, far from the madding crowd, far, far from feminine monarchy, where not even the faintest rustle of a skirt may disturb the anchorite wedded to apicultural joys! What thinkest thou of this, most excellent young man? It were meet that the fervent bee-keeper should lead a solitary life apart from a cold, unfeeling world, unsympathetic towards the enthusiasm which prompts the bee-man in his house workshop to ply saw, plane, and hammer far into the small hours of the winter nights, or conversely in honey-time draws him apiarywards at break of day. How pleasing the prospect of saying good-bye to worldly cares and domestic worries; happy the thought of living the "simple life" among congenial surroundings, in single blessedness, fancy free! Upon us as we dreamt there came the deplorable season of 1907, shattering our Utopian visions, turning the expected glorious campaign into one long-drawn-out field of grief.

The Philistines scruple not to "rub it in," reminding would-be livers of the simple life that in this year of grace the honey-bees' earnings would provide their employers with no more than one diet per month—scarcely sufficient for even an enthusiast.

Still, our faith in the inmates of the hive is quite unshaken; they at least pay their way at all times, and when the elements are propitious their owner reaps a rich reward, so we hold fast to the hobby—I fear it can never be anything more in the land of the mountain and, alas! the flood. Many waters cannot quench the bee-keeper's love for his craft; an occasional bad season only braces him to renewed effort. Experience reminds us that the blessings are merely withheld, and depend on it, if we practise the triple virtues of charity towards the bees, hope for the future, and faith in our own abilities to make the best of things, future returns will show that the past season's crop was "not lost, but gone before."—J. M. Ellis, Ussie Valley, December 14.

(Correspondence continued on page 506.)

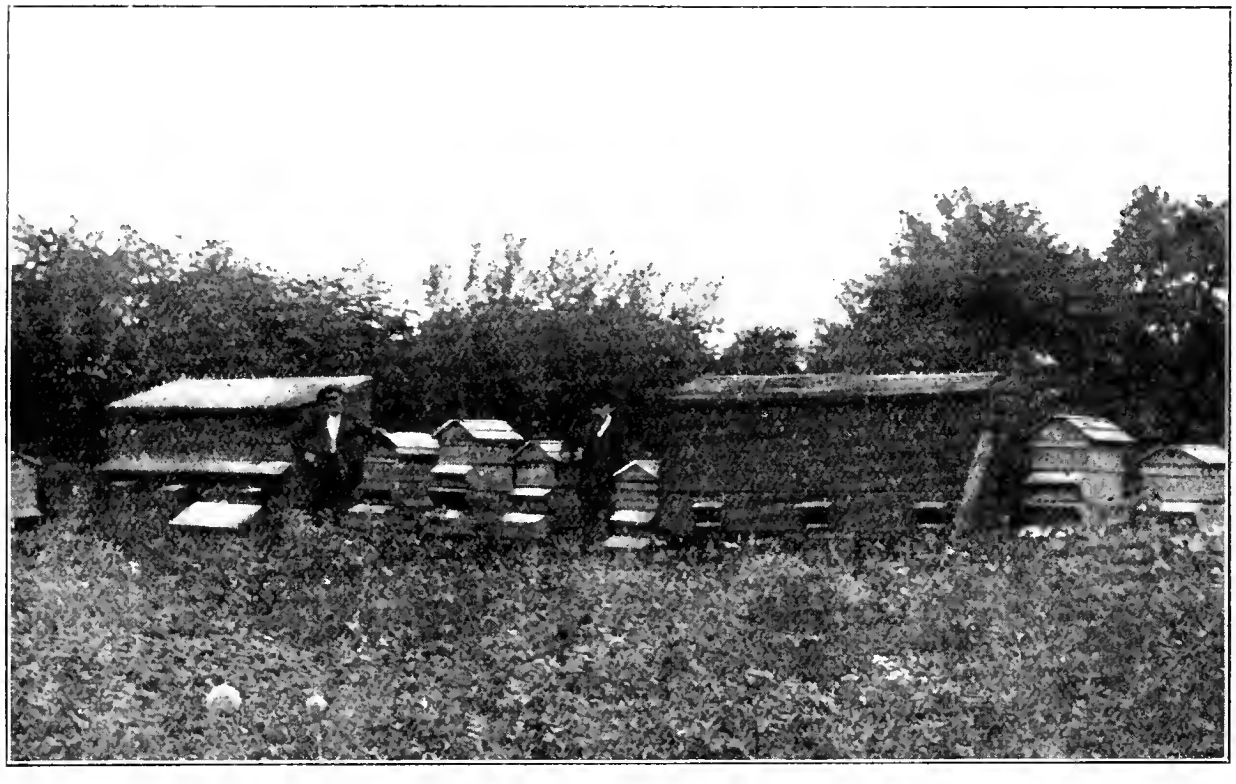
HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

The inclusion of the bee-garden, on opposite page, of so old a B.B.J. reader as Mr. Ames is highly satisfactory to ourselves, and the following "notes" will no doubt be equally so to readers new and old. Beyond reciprocating his good wishes, we need add nothing to them. He says:—

"In sending a few notes to accompany the photo of my little apiary in the 'Homes of the Honey-bee,' I may say my first experience in bee-keeping was in the year 1869! I have been a lover of

other hobbies, but bee-keeping is to my mind the most interesting of all. In making a start I began badly by purchasing a stock of bees in a wooden box about a foot square, and six weeks later had a swarm from it, which I hived in another square box. The following year I had three swarms, all of which were hived in skeps. But that sort of bee-keeping was not to my mind, so I tried to drive the bees out of the old boxes into better hives, but failed in the attempt, and in disgust put the whole over the sulphur-pit, and did away with the lot. A memorable experience I had in driving bees appears in vol. xxiv. of the B.B.J. for September 10, 1896, headed 'Bee-driving Extraordinary.' This by the way; but to go back to 1873. In that year I got the idea of going to London for a time, so, leaving the bees I then had with my father, I started off, got work, and took a house near the Old Kent Road. Hereabouts there was plenty of bee-forage, including, among other things, two rows of lime-trees. I therefore got my father to send me a couple of stocks in skeps, which duly reached me packed in a large tea-chest. In a short time they were set up on their stands, and I got an amount of surplus honey from them which far exceeded my expectations. At the end of three years I returned home, after disposing of my bees, and settled down. I next hired an allotment about two miles away, and placed therein the rest of my bees, which had been left in charge of my father. I then began to put into practice the knowledge gained from reading the B.B.J. since 1884, and started with frame-hives and modern methods. I have taken your paper since the date named above, and would not like to be without it on any account, seeing that it has been so great a help to me in my bee-work, as also has the 'Guide Book.' I now have thirteen hives on my allotment, and two stocks in frame-hives placed on a leaden roof, 9 ft. by 3 ft., outside my top-room window. These latter I find very handy for cleaning up wet combs after extracting. I have a card put up in my front window which reads 'Honey for Sale from our own Bees,' and by means of this I am able to dispose of my surplus at 10d. and 1s. per pound. When packing the bees up for winter I put on wooden gratings made large enough to cover the frame-tops. The sides of my frames are 2 in. wide and $\frac{1}{2}$ in. thick, two opposite sides being rabbeted out $\frac{1}{4}$ in.; in this I tack $\frac{1}{4}$ in. thick strips of wood 1 in. wide, and over all stretch a piece of fine canvas. I then cut a feed-hole in the canvas and place thereon a box of candy. These candy-boxes are made 9 in. long and 5 in. wide, and hold 3 lb. each: they provide a $\frac{1}{4}$ in. space for the bees to run over all frames. No frames are removed from body-boxes in winter, but as soon as the honey-flow is over I begin syrup-feeding; this done, I put on the candy in boxes as stated above. I have followed this plan for a good many years, but do not remember ever having a stock starved for want of food, and the bees come out strong in



MR. WILLIAM AMES'S APIARY, ST. GEORGE'S, NORWICH, NORFOLK.

the spring. I think we must be free from foul brood about here, for among the many bee-keepers of my acquaintance not one has complained of it, nor have I ever been troubled with it myself. I clean the hives out thoroughly in the spring, overhauling every stock, and I think that to be one way of keeping foul brood at bay. The figure seen on my right is my youngest son. He is very fond of bees, and a great help to me in all work connected with them. I conclude by wishing our Editors and all brother bee-keepers every success in their labours, and a bright and prosperous 1908."

(*Correspondence continued from page* 504.)

BEE-KEEPING IN SOUTH AFRICA.

INTERESTING LETTER FROM CAPE COLONY.

[6939.] To many of those living in the Old Country South Africa conjures up a vision of sun-scorched desert and barren karroo, relieved by an occasional gold mine or diamond field. In recent years, perhaps, more has been heard of the agricultural resources of the South African Colonies, for the export of fruit is increasing every year, not to mention the wool and ostrich feathers sent away annually. As a bee-country, however, very little is as yet known. The chief reason for this may be found in the fact that modern hives and economical methods are but slowly forcing their way into a somewhat conservative population. The average Cape Dutch farmer seems to have an idea that one of the many uses for which God created tar barrels and paraffin boxes was to be habitations for bees, and accordingly treats all other forms of hive as profane and worthless innovations. There are, however, a few go-ahead apiarists scattered throughout the colonies, and to these we must look for what are the actual possibilities of bee-keeping in this country.

First, as regards the sources of honey. There are districts which are probably among the finest in the world so far as regards bee-forage. These are principally the coastal regions, stretching from the Cape to Natal. In the Riversdale district in Cape Colony, though bees are kept in a most primitive manner, farmers dispose of their honey by the wagon-load. The country is covered thickly with flowering shrubs. Scores of varieties of sweet-scented heaths grow everywhere around, and the veldt is a complete carpet of wild flowers. A hundred or a hundred and fifty pounds are often taken out of a single box-hive in the season, and one wonders what an experienced bee-keeper might not be able to accomplish aided by modern appliances. Natal, too, is another grand bee-country. Scientific methods, moreover, are creeping in there, and several enthusiastic bee-keepers are showing what can be done.

In the Transvaal some encouragement is given to the craft by Government, who have recently experimented with imported Italian queens. Rhodesia and the Orange River Colony have also their bee-keepers, who report favourably on the possibilities of those parts.

Living in Cape Colony, I am more interested in, and better able to speak about, the bees and prospects of that part. The only time when bees do not work much out here is in the summer months. Throughout the scorching days of January, February, and March hardly a bee is flying; for there are practically no flowers blooming at this time. Where certain varieties of gum trees abound or where lucerne is grown then the bees have something to work on; but of indigenous wild flowers there is hardly a summer bloom that yields honey in any appreciable quantity. I say this much with regard to my own locality. A few miles away bees may be getting a small quantity from some mountain flower, but from autumn to the commencement of the following summer is the time when our honey is really gathered. A warm spell quite frequently occurs in mid-winter, and this year (1907) nearly all the surplus I obtained was brought in during June, July, and August, these being the months comprising our winter.

One of our principal sources of honey is a species of white heather which covers hundreds of acres of the veldt. This honey is inferior to that from "ling" or real Scotch heather (*Calluna vulgaris*), but the flavour is quite agreeable; and from May to November there is generally abundance of blossom. I am blessed with a plantation of blue gums within a stone's-throw of my apiary. One can shake the nectar out of these flowers in big drops. On warm mornings when these trees are in bloom the loud, contented hum of the bees—sweetest of all music—working in the tree-tops can be heard before it is light.

Then we have the sugar-bushes (*Protea*), another flower out of which nectar can be shaken; the Cape weed (perhaps our most valuable honey-plant); the pin-clover or *Ifilarela*; bur-clover (*Medicago denticulata*); half a dozen varieties of wattle (acacia), together with acres and acres of fruit-trees and vines; and a host of spring and winter wild-flowers are available to the bees. The only regret is that we get our flowers when the weather is coolest and the days shortest, and have so few blossoms in the midsummer heat. Hence methods must be employed somewhat different from either English or American theories. A knowledge of these, however,

is most useful—I might say indispensable—to success with bees in this country.

As regards the kind of bees kept, very little has as yet been done in importing queens. The native bees—in Cape Colony and Natal, at any rate—are excellent little workers and breeders, taking readily to modern appliances and comb-foundation with the usual-sized cell. By a selection of only the best stocks for breeding from, first-class strains could no doubt be built up. There is one great objection, however, to unrestricted importation—we have as yet no foul brood or other bee-diseases. It would seem an unprogressive step to forbid importation, but once it starts the bee-diseases prevalent in other countries will probably creep in. When foul brood arrives it will be a case of the survival of the most painstaking and fittest bee-keepers.

At present there are great numbers of wild nests of bees to be found in hollow trees, ant-heaps, and other similar places, and decoy-hives set about in trees have brought me in many stray swarms. Although we are free from bee-diseases, we are not without our pests. The wax-moth finds this climate congenial, and works havoc with weak colonies. Ants often prove a great nuisance, and there are several bee-eating birds. In the less populated parts baboons are said to be shocking honey-thieves, and, apparently, are immune to stings.

As regards prices for produce, these rule about the same as in England. Hives and appliances are costly affairs to purchase locally, and come somewhat expensive if imported direct. Bee-keeping, however, is just as fascinating and, I believe, as profitable here as in any other country. The possibilities of the industry in South Africa lie almost entirely in the future. I send name for reference, and should like to say that the "Guide Book" and the BEE JOURNAL and *Record*, to both of which I subscribe, have been a great help to me in overcoming even our South African difficulties.—F. C., Cape Colony, November 19.

THICK COMBS.

[6940.] Mr. Crawshaw (in "Cappings of Comb," page 498) seems to have misunderstood me in regard to starting with ten combs in a box. I meant ten combed-frames. When using only foundation I would say start with twelve, so as to reduce empty spaces as much as possible, and keep taking one away till there are only eight left. The extra manipulation is not much, no harm is done, and the pleasure of seeing what the bees have done in a few hours more than counterbalances the trouble. By following this plan no difficulty will be found in getting the bees up (providing, of course, that they are in fit trim for so doing). I was working for years with brood-size frames only; therefore the task was more difficult than with shallow-frames, which I surmise the Rev. Mr. Lamb used.

As neither he nor Mr. Woodley has replied to my query as to there being any difference in density they may have noticed between the honey from sections (which are thick) and that from frames of ordinary width, or between that from newly built-out sections and that from "bait" sections, it seems that in this matter both gentlemen have met with a poser. If I remember rightly, when the question of taller and thinner sections was so much to the fore Mr. Woodley wrote in favour of the thicker one—*i.e.*, the usual $4\frac{1}{4}$ in. by $4\frac{1}{4}$ in.; therefore, why not thicker combs for extracting? The obvious conclusion is that neither he nor Mr. Lamb gave thick combs a fair trial, and only imagined that the honey therefrom would be thinner.

I am forced to disagree with the Rev. Mr. Lamb with regard to nearly all his other objections. With fewer frames there must be more room for honey. The bees with me very rarely swarm: they stored a lot more honey than if thinner combs had been used, and out of some thousands of combs uncapped I scarcely had an odd one that the knife did not go through at one sweep. Most of them were as flat as boards, and would have gone (as some of them did) into a single-comb show-case without touching the sides. —NONDESCRIPT, Lanes., December 16.

BEES IN HOUSE-ROOF.

[6941.] The enclosed photograph may perhaps be of sufficient interest for reproduction in your JOURNAL. It is of combs attached to the rafters and plaster lining the slates of a house (not my own). Some four summers back a swarm of bees made their way into the roof, and have been there ever since. As their entrance-hole was near a bedroom window, I determined to get rid of them and to capture the honey if possible. With this in view I went up into the roof and located the position in which the bees had made their nest. It was at one end of the house, and the combs extended about 20 in. in rear of the wall-plate, and measured 22 in. across the back (as shown in the photograph). There were sixteen combs in all, hanging down nearly 2 ft. from the highest point of attachment to the rafters. I took the photograph with a magnesium-ribbon lamp, giving somewhat over twenty seconds' exposure, and using a No. 2 "Frena" camera with instantaneous film.

In taking the honey I first hung a carbolised cloth around the combs for a short

time, and on removing I lit a sulphur disinfecting tablet as near the combs as I could place it, blowing in the fumes between the combs with a small pair of bellows where the bees were located. In about half an hour I began cutting away the combs; in doing this I had to lie flat on the beams of the ceiling in order to reach the lowest point of the combs nearest the wall-plate, using a long carving-knife to cut with. I filled four lard-tubs with comb containing honey, and two more tubs with brood and empty combs. Over 35 lb. of honey has been extracted from the combs. It is distinctly thyme-flavoured. I am only a bee-keeper in a small way, owning but three hives, while my experience only extends to four years, but I am quite at home with the bees, using neither veil nor gloves when operating. Name sent for reference.—A WEST-COUNTRY BEE-KEEPER, December 14.

[We are sorry to find the photo is unsuitable for reproducing as a tone-block, not being sharp enough for that process. —EDS.]

NOTES ON CURRENT TOPICS.

SUPERSEDING QUEENS, AND OTHER ITEMS.

[6942.] In my humble opinion, there is far too much of this done, and, according to "D. M. M." (page 487), it would appear that Mr. Root, Dr. Miller, and others across the "big pond" are now advocating letting the bees do their own superseding. For myself, I have seldom done any work of that kind, except to introduce foreigners, and afterwards to do away with the latter in order to reintroduce natives. I have had stocks go for nigh twenty years without swarming and without any superseding of queens. Not only so, but the stocks in question have remained good all the time. It appears to me that our bees do far more superseding than is generally thought. I have known it to be done in at least twenty instances during the past season, and the bees generally do it at the right time. It is very rarely found that an old queen dies a natural death in winter. Indeed, according to my experience, stocks found queenless in spring, along with colonies headed by drone-breeders, are mainly those that had young queens of previous year at their head. I am of the opinion that if a close examination of all stocks could be made in early spring two queens would often be found on the combs—mother and daughter, the latter mated and laying from previous year.

"Balling" Queens.—With regard to the "balling" question, mentioned on page 484, I should like to ask:—Can bees make the "ball" tight enough to asphyxiate the queen? If stinging is the cause of death, would not the fatal thrust be given in a few seconds of time? Again, when bees are tightly packed, can the innermost ones possibly put themselves into position for using their stings? I fancy that in most cases death takes place through exhaustion, brought on by the struggles of the poor queen to get out of a tight place.

Foul Brood.—This pest apparently keeps lingering on in many apiaries, it would appear, through the full instructions in "Guide Book" not being carried out to the letter. I have known hive-bodies to be burnt or scorched inside and thoroughly disinfected, and yet the old quilts, wrappings, and feeders used again without treatment at all beyond a mere wash in hot water! Can anyone wonder at failures?

Does the wax from diseased combs which falls into the hands of foundation makers always get sufficient boiling to kill the germs it contains? I doubt it.

Pollen for Driven Bees.—If all neighbourhoods were like that of your correspondent Mr. Winterton, no providing of artificial pollen would be necessary; but if like the one I am in it would be, and is, absolutely necessary, for there is no ivy within reach; consequently if no pollen substitute is given there can be no breeding till the crocuses, &c., are in bloom.—ROBIN HOOD, Lancashire, December 14.

BEES AND JAM-FACTORIES.

[6943.] Bee-keepers in several parts of this country have had much trouble in connection with factories for jam, sweets, and chocolate in their neighbourhood. Some complain of an enormous loss of bees in these places, and even state that boys are kept to kill the poor insects. Others show one samples of extracted honey with unusual tints and flavours, or sections with mosaic patterns in brilliant colours.

Every bee-keeper knows the trouble caused by the misapplied energy of bees discovering an indoor stock of sweetstuff when nectar begins to run short, and will sympathise alike with the workers in the factories and the bee-keepers in their vicinity. Can any of your readers, however, give instances of the successful exclusion of bees from such places by any means whatever? It has been suggested that bee-proof screens of wire or some other material might be fixed at the windows. Has this been tried? Any information on the subject would be welcome.—JOHN P. PHILLIPS, Hon. Sec. Worcestershire B.K.A., Spetchley, December 16.

BEES AND ARTIFICIAL POLLEN.

RENEWING COMBS ANNUALLY.

[6944.] Referring to Mr. Crawshaw's remarks on page 498 about giving artificial pollen in September, I think he is in

error in considering flour-candy injurious to bees if given in September. Down here in Cornwall the weather is usually quite genial until November, and breeding will not cease entirely if the queen be suitable and is stimulated.

I observe a good many theoretical objections are raised in your pages with reference to Mr. Farmer's methods of renewing combs annually; but against these the practical result remains that Mr. Farmer in all ordinary seasons gets his stocks into first-class order for honey-gathering, and obtains excellent honey-crops. After all, what we want are good practical results.

I happen to know that Mr. Farmer is very thorough in his methods, and not at all likely to continue to practise any system that he has found to be unsatisfactory. I think he does much good in insisting upon the necessity of thorough cleanliness in the apiary, and, as he says, there need be no loss from disease where care is taken to work on the lines stated. —A. H. B., Cornwall, December 10.

NATURAL V. ARTIFICIAL POLLEN.

[6945.] Bee-keepers generally will agree with Mr. L. S. Crawshaw when he states (on page 498) that pea-flour and fine oatmeal are only substitutes for natural pollen. I am also well aware that it is difficult to wrest from the hive some of its secrets, yet all my experiments have so far tended to one conclusion—viz., that pollen is not consumed during the resting-time of the bees, except for the few grains that are already in the honey when taken as food. The consumption of pollen in quantity causes an accumulation of excreta, which must be got rid of when the bees are on flight; hence a well-made cake of candy is excellent food during the quiet winter-time. My latest experiment is with a stock of bees covering one comb only. These were fed with heather-honey, which resulted in a certain amount of dysentery, just enough to cause the bees to soil the hive and combs a little. I have now given them a 5-lb. cake of candy, and the unrest has given place to rest, and, what surprised me most, they are actually building comb. Heather-honey was given in preference to clover on account of its density, but it may also contain more pollen grains.—Joseph Gray, B.B.K.A. Expert and C.C. Lecturer, Long Eaton, December 16.

TURNING THE BEES.

[6946.] Seeing in "Cappings of Comb" Mr. Crawshaw inquires in regard to the "turning of bees" on death of owner in Devonshire, I recollect as a very small boy being present at my grandfather's funeral, and he, being an old skeppist, had a varied assortment of skeps. On the day that he died, as soon as the bees had done working for the day, I remember my grandmother going out to the hives and, tapping each skep in turn, saying, "Bees, your maister is dead." On the day of the funeral, about an hour before he was carried out from the old home, the skeps were turned completely round on the stand, so that the entrance faced the path that the mourners with the body would take. Hoping it may be of some interest.—Worker Bee, Langford.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

An Inspection Cover (page 476).—It is doubtful if wood be really porous in a ventilating sense. Heat will penetrate it, and air no doubt would do so under pressure; but the difference in column is perhaps hardly sufficient to cause air to filter through the cellular structure, particularly if this be damp. If, then, ventilation may be ignored, would not "Uralite" conserve the heat better.

I am, like Mr. A. Reid, a believer, for certain good reasons, in close-ended frames. Where open-ended frames are used it would seem Partingtonian to attempt to keep heated air confined to one portion of the brood-box. But heated air will escape over the frames unless each be sealed to the cover, and any brace-comb or inequality of level will give leakage. To picture the action of the heated air, suppose the body-box inverted intact, and a fluid poured towards the quilt from the cluster. I have for long used a $4\frac{1}{4}$-in. inspection glass over a 3-in. hole, but I will try one of Mr. Reid's covers by enlarging this, in two thicknesses of carpet, to 12 in. by 3 in., and use three squares of glass. "Hill's device" is intended to afford clustering room above the frames, and comb-building is the only reason I know in favour of limiting the space to about bee-way dimensions.

Foul Brood (page 477).—Theoretically it is possible to exterminate this disease, as it has been proved that certain agents will destroy it in the bacillus stage. The difficulty, of course, is to treat the whole of the germs in this stage. Mr. Browning's instance of a fevered child is not truly analogous. Each affected larva must die, but the hive is not diseased, although we speak of it thus. The community is analogous to the hive or colony. I have recently had some interesting correspondence from Mr. G. W. Avery on the subject of natural cures, and he fairly states what has for some time been my own conviction—viz., that such cases are of the mild type of foul brood, and that the virulent type will never be cured of itself.

May we soon have these two diseases separately named, to the removal of the existing confusion!

Bees at Battle (page 478).—This case of bees fighting on historic ground may bear a further explanation. If the combs were broken, this would cause the disturbance or start the robbing. Then the removal of the robbed stock to a distance would create a lot of homeless bees, who would seek entrance at the lately neighbouring hives to right and left, with further disastrous results, which would bear the appearance of robbing.

Plural Queens (page 482).—This point as to the relative ages of the queens will repay investigation. It has seemed to me from observation that where the workers are willing the feeding of the queen depends upon her own demands. I have, however, found mother and daughter alongside in very different states of bodily prosperity; but that might merely be division of labour, the old one cackling whilst the young one laid! Mr. Woodley's suggestion of waste labour does not apply solely to duplicate queens, but obtains every spring with vigorous young queens in small clusters. In any case, such queens would not, I think, be more inclined to lay away from home—that is, outside the cluster.

Queen-raising or Queen-mating (page 482)?—It is not quite correct to style as "queen-raising in baby nuclei" the gathering of ripe cells from normal colonies. This is not queen-raising as understood by the expert breeder, but it is making the most of natural events. Of course, it is "easier" to give such cells due to emerge, but it is quite out of the question to give artificial cells with eggs to baby nuclei. I have gathered from a perusal of Mr. Farmer's writings as a whole, and his recent reference (page 473), that he has attempted this latter method; but even if queens were reared they would be of no value whatever.

Native Queens (page 482).—The trouble with the introduction of foreign blood into the apiary is that after the cross arrives it must be borne. The fault, and, it may be said at once, the value, of crossing is that there arises endless diversity of characteristic. Where a bee-keeper can spend the rest of his life in sorting out and choosing the good, there he may be eventually justified in his mongrelisation. Otherwise he would be well advised to stick to the native race, or to maintain the purity of the strain which he patronises. I am not sure that he is justified in spoiling his neighbour's bees, though!

Fusion and Confusion (page 483).—There would seem to be a discrepancy here, as pointed out by "Cornish." Mr. Farmer explains the age of these unrenewed combs by the fact that he bought them. But he also gives (page 437) the weight to an ounce of the foundation he used for these very combs! The obvious explanation must be that he fitted up these combs for the vendor. I wonder if I should be wide of the mark in suggesting that purchase of these afterwards united stocks was necessary to make up for winter loss? I pin my faith to old combs for winter. I should have liked to ask Mr. Farmer how many stocks he averages, and what is the percentage of winter loss on the new combs. But I note with regret that he is going to rest from his labours, and though I do not always agree with his opinions, I shall miss him more than anybody.

Queries and Replies.

[3644.] *Moving Hives Short Distances.*—I want to move two hives to a new position about twenty yards from the present one. The bees being at rest, can I effect the shift of each hive in one operation, or must the job be done by short stages?—H. E. Goodwyn, Jersey, December 14.

Reply.—If convenient, it is safer to move the hives a few feet at a time when the distance is so short as twenty yards. But if the weather is cold enough to keep the bees indoors for five or six weeks at one spell the hives may be moved right on to their new stands by taking such measures as will alter the appearance of doorways. A small branch of a tree laid on flight-board will suffice.

Notices to Correspondents.

Honey Samples.

Milton Wood (Cambs.).—The sample of granulated honey sent is excellent on all points, and the person who returned it as "not fit to eat" because of being "greasy" must have a very curious idea of good honey in solid form. The smoothness so strongly deprecated by your customer is far preferable to the rough granular honeys often sold. Yours would take a good place on a show-bench, the smooth grain being a strong point in its favour.

Nil Desperandum (Lyndhurst).—The sample sent has probably miscarried in post, as we cannot trace the parcel. It may help us if you will kindly describe the jar in which it was sent. It is satisfactory to find none of your small honey-crop has been spoilt this year by honey-dew.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Editorial, Notices, &c.

SEASONABLE GOOD WISHES.

In consequence of the Christmas holidays, we are compelled to go to press with the current issue of the B.B.J. two days earlier than usual; consequently the paper will be in the hands of readers on the 24th inst. We therefore gladly avail ourselves of the opportunity for conveying our heartiest good wishes to all contributors and readers for a happy Christmastide, with good health and a successful time with the bees in the coming year.

THE EDITORS.

ROYAL AGRICULTURAL SOCIETY.

NEXT YEAR'S SHOW AT NEWCASTLE-ON-TYNE.

According to the annual report just issued, the sixty-ninth annual show, if favoured with fine weather, bids fair to be a still greater success than that held in June last at Lincoln, when the number of visitors was over 133,000, and the prizes totalled £8,516. The net profit on the show reached the handsome sum of £5,056, to which must be added a contribution of £4,000 from the ordinary funds of the society to the show account.

The full prize list at Newcastle will, according to the report, be considerably larger than at Lincoln. The show will be held on the Town Moor, opening on Tuesday, June 30, and closing on Saturday, July 4, thus allowing bee-keepers a few days longer for preparing their exhibits. It is not yet known whether the Northumberland and Durham B.K.A. will take steps to have local classes for the bee-section of the show, as was the case at Lincoln; but there is full time for making a similar arrangement if the association is so disposed.

REVIEWS OF FOREIGN BEE-JOURNALS.

By "Nemo."

Pure Races of Bees versus Crosses.—An interesting discussion took place at a congress of German naturalists held in Stuttgart with respect to the transmission of various qualities in breeding horses and other animals. The conclusion arrived at with regard to bees was that it had been conclusively proved by experience that the crossing of two different races produced not only breeds of extreme variability, but the defects in each race were more pronounced in the offspring than in the parents, while the good qualities of these were considerably diminished. After continuing such breeding to the third and fourth generations it had been found that Nature stepped in to eliminate the worthless by making them sterile.

M. Wathelet, editor of *Le Rucher Belge*, says it must be admitted that what is true with respect to horses and other animals is equally true with bees. If Italian bees are introduced into an apiary crosses are obtained to manipulate which is anything but a pleasure, although both Italians and blacks are quiet enough when not cross-bred. Here, then, is a defect accentuated in the crossing of two pure races. After a few years there is no trace of Italian blood in the apiary. The reason is the same as given above with respect to the equine race. Notice what is being done in Switzerland. In that country breeding by selection is carried out almost entirely with the pure black or native race; foreign bees and crosses have few advocates, the methodical and conscientious trials carried on for a number of years having proved the excellence of the indigenous race and the absolute want of constancy in the crosses. The editor further instances the case of a bee-keeper who, after many years of careful selection, had obtained an apiary of choice colonies, unfortunately introduced Italians, and in a few years, alongside of a few good colonies, he found a large number of worthless ones, and the returns were in consequence reduced considerably. He had to begin his work all over again, and was fortunate in having a few pure colonies to start with.

Eviction of a Priest Bee-keeper.—We read in *L'Union Apicole* of what appears to be an unjust and despotic treatment of the Abbé Delaigues, who is well known in France and in other countries by his works on bee-keeping. The reverend gentleman is editor of *L'Union Apicole* and vicar of Sainte-Fauste, and it appears that at the request of the municipality of this place the President of the Tribunal issued an order for the eviction of the vicar from his vicarage. The order was carried out by the sheriff, accompanied by a contingent of gendarmery. The vicar resisted, and although he had the approval of the Archbishop of Bourges, the eviction was carried out by force. Our readers will be surprised to hear that all this indignity was heaped upon him because of refusing to sign a lease—prepared and stamped by M. Raoul Patureau, the mayor—containing clauses prohibiting the abbé from carrying on and teaching bee-keeping, except on such conditions as the lessor chose to impose. The vicar has our sincere sympathy, and we pity the people who are governed by such antiquated and despotic municipalities.

Queen Feeding Herself.—At the general meeting of the Société Centrale d'Apiculture, in Paris, so we read in *L'Apiculture*, a statement was made that the season of 1907 had, on the whole, been a very bad one, many bee-keepers reporting that honey was deficient both in quality and quantity.

Swarms were plentiful, but had to be fed right up to September. M. Sevalle stated that having to feed a weak swarm he found that the queen was quietly helping herself to food, just as the workers were doing. M. Sevalle is of opinion that it is only when the queen is so busily occupied with egg-laying as not to have time for helping herself that she depends on the workers for food.

Stingless Bees of Brazil.—Meliponæ and Trigonæ are two families of bees that differ considerably from our honey-bees. In the *Bienen Vater* we read that H. v. Ihering, the Director of the State Museum in Ypiranga, has been making biological investigations respecting these bees, which he has been able to study in their native country. They differ from ours in that they have no sting. Some species are quite harmless, and do not resent when their nests are disturbed. Other species will swarm over one, and will crawl into the nose, ears, or eyes, and get up under the clothing, and thus annoy the intruder. Others bite freely and inject a poison from their jaws which causes inflammatory wounds. Meliponæ and most of the Trigonæ make their nests in hollow trees, and if they do not fill the cavity erect a wall round their combs, which they construct with resin and clay. Some of the Meliponæ nest in the ground, and others among the branches of trees. The combs lie horizontally, and the six-sided cells are filled with food, which is usually pollen, on which an egg is laid, and the cell capped over. The young brood is not fed, but when the larva that comes from the egg has consumed all the food, it becomes a chrysalis, and in due time emerges as a perfect insect. As the workers have not got to look after the brood they confine their attention to nest-making and gathering honey and pollen. Brood is found in the nests of stingless bees at all seasons, as pollen is always available. They also collect honey, which is the principal food of adult Meliponæ bees, whereas the Trigonæ also use animal and vegetable juices. The honey collected by Meliponæ varies considerably, is generally very thin, but can be thickened by boiling. It is said to be much finer in flavour than that of the honey-bee, whereas that of the Trigona is very poor and has a mawkish flavour. The natives cultivate these bees by putting the established nests into boxes; but swarms cannot be caught, so that there is no means of starting the bees in hives. The wax that the Brazilian stingless bees make cannot be rendered in the same way as that of our bees, and is commercially valueless. The number of bees in a nest varies with the different kinds, some having not more than 300 individuals in the colony, while others may have as many as seventy to eighty thousand inhabitants.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

ANCIENT BEE-BOOKS.

[6947.] The price of most of these works is generally prohibitive for the average bee-keeper, even although he has a craving for the interesting pabulum contained in the earlier masters; and, worse, they are so scarce that it is no easy matter to obtain a copy. Take, for example, Hill, Lawson, Levitt, Googe, Southerne, and Remnant. I have had all of these in my possession with the exception of Googe, which I have never seen, and found them all full of interest. Reprints of many old works have lately passed through the press, and the hearty reception accorded them leads me to make a suggestion. These books should be reissued in small, neat volumes at, say, 6d. each; or, alternatively, two or three might be bound together (they are all small books) at 1s. per volume. Butler, Purchase, or Thorley at this price would, I feel certain, pay. Will any bee-keeping publisher kindly take a note? Or our Senior Editor might take the question to avizandum.

Take a few of the prohibition prices. Hill is cheap, but almost unprocurable, at 4 guineas; Butler and Purchase, in a catalogue before me, are offered at £3 3s.; Thorley is priced at 12s., although I got my copy at 4s. 6d. Prices vary, as Wildman in London is valued at 7s. 6d., in Edinburgh at 4s. 6d. Perhaps the fact of these high prices having been recently paid by many collectors might induce them to throw cold water on my suggestion to issue a cheap reprint, as it might tend to reduce the value of their investments; but I do not think so, as they would appeal to two different sets of purchasers. The value of the book lies in its rarity, and even different editions vary considerably in value.

Viewed as bee-guides to aid in the furtherance of modern apiculture, these old books may not be of much value, but they are all the same delightful reading, and frequently we get exquisite touches of sound wisdom, while at times modern bee-keepers might take lessons from their management. They were, in general, eager and earnest seekers after truth,

and many of them served a long apprenticeship in the craft, as, for example, Lawson's "forty-eight years among the bees." At times these authors overweighted their pages with exploded conceits, strange whimsies, ancient absurdities, fables and legends, sophistical fallacies, fictitious facts, and fanciful productions of the imagination, to quote some of their own expressive phrases; but in the main their writings are the fruits of ripe experience. Digging into one of these works of "ye oldene time" is to me one of the most delightful of pastimes.

Cellar Wintering.—This is largely practised in the Northern States and Canada, but I am not certain if it has ever been tried on any scale in this country. If so, I should like to hear what results followed, and if the experimenter was so enamoured of the process that he tried it on a second time. My own opinion is against the practice, but only theoretically. Some years ago a neighbour constructed a special building, into which he placed his hives on the first approach of winter. For some time, during the continuance of a sharp snowstorm, he was enthusiastic over his new invention, and fondly believed he had solved the wintering problem. During mild intervals, when flights took place, very considerable intermixture took place, as bees were not very particular about returning to their own domiciles, but interchanged indiscriminately, and many others returned to their old locations. Still, he had faith in his pet scheme at the opening of the active bee-season, and declared that breeding had started earlier and on a more extended scale in these "cellared" hives. It was, however, when they were consigned to their summer stands that his faith took wings. Several colonies died out from paucity of bees, owing to further intermixing, others showed chilled brood, from the same cause perhaps; but he declared that the whole collection fell off most decidedly after the pampering care of the cellaring had been withdrawn, with most to such an extent that two had to be joined to make one anything equal to those wintered in the summer stands. This is the nearest approach to cellaring bees that has come under my cognisance, but results were so discouraging that I would not advise a repetition, unless as an experiment.

"*Do Your Own Thinking.*"—Too much reliance should not be placed in bee-books and bee-newspapers. The student, of course, requires a text-book, and he has several choices well worthy of careful perusal. In fact, even yet, after twenty years' bee-keeping, I read over the "Guide Book" most carefully every winter. I read a dozen bee-papers, and am pleased to meet with anything on the subject in general literature; so it can be seen I am a believer in reading, yet I advise that too much reliance should not be placed on any writer's dictum until the reader has given it some thinking. So much depends on circumstances, on locality, and on the amount of intelligence exerted by the operator.

A merry Christmas and a Happy New Year to every reader of the JOURNAL.—D. M. M., Banff.

BEE-CASE IN SOUTH AFRICA.

[6948.] Mr. D. Cairncross (Cairncross and Zillen, Pretoria) kindly sends us the following report of a bee-case, deeming that it will interest readers at home to know how a magistrate in South Africa deals with bee-troubles.

BEES AND A BROKEN ARM.

In "A" Court yesterday, before Mr. Van den Berg, M. Gerson, of the Mynpacht Hotel, Fordsburg, was charged with assaulting a lad of sixteen named A. J. S. Wishart.

It was stated in evidence that on October 29 a swarm of bees escaped from an apiary on the Robinson mine, and swarmed on a tree in Gerson's property, the branches of which were overhanging the street. Wishart saw them, and the idea struck him that his brother-in-law would like a swarm. Putting on a pair of gloves, he got a step-ladder and a tin can and went to the tree. A crowd of people assembled to watch him. Prior to that he had obtained permission from a woman living in the hotel, but when he was near the top of the ladder Mr. Gerson stepped out of the crowd and ordered him to come down. The lad, who was at a height of about seven feet, refused to do so, contending that it was a public place. Gerson thereupon pushed the ladder from the pavement, and Wishart, falling on the kerbstone, fractured his left arm.

Dr. Gilchrist gave evidence as to fracture.

Several witnesses were called for the defence, but although all of them stated that they had not seen Mr. Gerson push the ladder, none of them would swear that he had not done so.

Mr. Levy, who conducted the defence, informed the Court at this stage that he would not call the accused, and on this decision he was informed by the magistrate that to do so "would not help him in the least." The accused was accordingly found guilty.

Mr. Thompson, Public Prosecutor, said that Mr. Gerson could consider himself fortunate in that he did not stand charged with a more serious offence.

The magistrate said that he would have seriously considered the question of allowing a fine were it not for the fact that civil proceedings for damages were to be instituted. In view of that fact he

would inflict a fine of £20, with the alternative of a month's imprisonment. The fine was paid.—*Rand Daily Mail*, Johannesburg, November 23.

THE B.B.J. AND ITS CONTRIBUTORS.

A SUGGESTION.

[6949.] The BEE JOURNAL is always interesting reading, and such of your writers who regularly contribute to its pages, as "D. M. M.," Mr. Woodley, Mr. Crawshaw, and others, are so familiar to us that one feels at length as if personally acquainted with them.

I have to-day read the article on page 491 by "D. M. M." on "The Old and the New" with peculiar pleasure. I read it aloud to my wife and daughter, and when I had finished reading my wife made the impulsive remark, "I should like to see 'D. M. M.!'" which awoke an echo within myself.

We BEE JOURNAL readers are scattered far apart, and we shall probably never see the writers who give us such pleasure, and I am led to ask:—Could you not (of course, with the writer's consent) manage to give us a few portraits in the JOURNAL, say one now and then? Please try to do this. Suppose you commence with "D. M. M.'s" photo; not his apiary, but the man. Name, &c., sent for reference. —MEL ROSÆ, Yarmouth, Isle of Wight, December 14.

[We will see what can be done during the coming year in accordance with our esteemed correspondent's suggestion.—EDS.]

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Frames without Bottom-bars (page 487).—A far easier method of enlarging the combs would be to use "Palmer's device." This would effect the purpose admirably, and might be removed without the disturbance necessary to the string-and-stick method. Not only so, but strips of foundation might be used instead of sacrificing good combs for the purpose.

A Clever Pony (page 498).—There is no doubt that the reason the pony knocked the hives over was to get at the honey-comb he had already been trained to like. But how was it he knew the nature of bees if he never got a sting? Did he mistake them for gadflies?

Marvels of Insect Life (page 499).—Read that extract again, and consider for a moment the wealth of uncivilised life which is yearly poured upon the ground, to be re-poured and re-absorbed. "What is man that Thou art mindful of him?"

Thick Combs (page 502).—I would not object to uneven work *per se* if more honey were obtainable. I would place the two least finished combs at the outsides of the second super. As to weight of wax, my assertion was "to the pound of honey." I do not think there would be much difference between the two weighings as stated. The point of this deeper uncapping is here. The thick combs are temporarily thin ones, and there is also an outlet for the naturally generated wax. But there may be others, who have gone through thick and thin to their ultimate satisfaction, who will settle the matter for us.

Artificial Pollen (page 509).—I can safely leave this question to "A. H. B." and Mr. J. Gray. But, whatever the conditions in Cornwall—which, from Cornish writings as a whole, I have gathered to be somewhat different from those of the hinterland—I should consider it unwise to preach the November stimulation of queens, whether with flour-candy or any other food.

Telling the Bees (page 509).—It is, I believe, an incontrovertible fact that a record return, even in this disastrous season, was obtained by all those bee-keepers who at the turn of the year went the round of their hives and wished them the compliments of the season! This undoubtedly proves the efficacy of such formulæ; so, to ensure a happier condition of things in 1908, may I add my good wishes to those of all B.B.J. readers, wishing them a successful wintering and a bright and prosperous season in the new year to come.

Notices to Correspondents.

J. G. (Long Eaton).—*Waxless Combs.*—If you choose to write to our correspondent on the subject referred to on page 499, we will forward your letter to "J. B. C." with pleasure. But as for ourselves, we prefer to stand by the reply we gave in answer to query sent. Referring also to candy-making please say what page of "Guide Book" the recipe followed was taken from: we will then deal with your own recipe.

C. C. (Cheltenham).—*Buying Honey.*—We have had several samples of honey similar to yours, and have expressed our views regarding the same. So frequently has this happened that we made it our rule to ask for the name of sellers before troubling to closely examine same, and in nearly every case the same reply was received. Our view is that it is not English honey, and it is not pure clover-honey. This is about all we can say, except that the samples vary considerably in quality; but none are very good. ———

*** In consequence of the length of the Index this year, and the improved form in which it appears, we are compelled to hold over several letters, queries, &c., till our next issue.